ORDER NO. HAD8612793C9

Service Manual

Stereo Integrated Amplifier

Amplifier
SU-V85A

Technics
Stereo Integrated Amplifier SU-V85A
VC-4

Color

(K) . . . . Black Type

Color	Areas
(K)	[E] ..... Continental Europe
(K)	[EH] .... Holland
(K)	[EB] .... Belgium
(K)	[EF] .... France
(K)	[EK] .... United Kingdom
(K)	[EG] .... F.R. Germany
(K)	[Ei] ..... Italy
(K)	[XL] .... Australia
(K)	[XA] .... Asia, Latin America, Middle Near East, Africa & Oceania
(K)	[PA] .... East PX.
(K)	[PE] .... European Military

SPECIFICATIONS
(DIN 45 500)

■ AMPLIFIER SECTION

20 Hz~20 kHz continuous power output	
both channels driven	2 × 100W (8Ω)
1 kHz continuous power output	
both channels driven	2 × 150W (4Ω)
Total harmonic distortion	
rated power at 20 Hz~20 kHz	0.002% (8Ω)
rated power at 1 kHz	0.0007% (8Ω)
half power at 20 Hz~20 kHz	0.002% (8Ω)
half power at 1 kHz	0.0007% (8Ω)
Intermodulation distortion	
rated power at 250 Hz: 8 kHz=4:1, 4Ω	0.005%
rated power at 60 Hz: 7 kHz=4:1, SMPTE, 8Ω	0.005%
Power bandwidth	
both channels driven, −3 dB	5 Hz~60 kHz (8Ω, 0.025%)
Residual hum and noise	0.8 mV
Damping factor	30 (4Ω), 60 (8Ω)
Input sensitivity and impedance	
PHONO MM	2.5 mV/47kΩ
MC	170 μV/220Ω
TUNER, CD, AUX 1 AUX 2, TAPE 1/DA TAPE, TAPE 2, TAPE 3/EXT	150 mV/18kΩ
PHONO maximum input voltage (1 kHz, RMS)	
MM	160 mV
MC	12 mV
S/N	
rated power	
PHONO MM	79 dB (88 dB, IHF, A)
MC	70 dB (72 dB, 250μV, IHF, A)
TUNER, CD, AUX 1 AUX 2, TAPE 1/DA TAPE, TAPE 2, TAPE 3/EXT	94 dB (IHF, A: 106 dB)
−26 dB power (4Ω)	
PHONO MM	72 dB
MC	65 dB
TUNER, CD, AUX 1 AUX 2, TAPE 1/DA TAPE, TAPE 2, TAPE 3/EXT	74 dB
50 mW power (4Ω)	
PHONO MM	65 dB
MC	62 dB
TUNER, CD, AUX 1 AUX 2, TAPE 1/DA TAPE, TAPE 2, TAPE 3/EXT	65 dB
Frequency response	
PHONO	RIAA standard curve ±0.2 dB (20 Hz~20 kHz)
TUNER, CD, AUX 1 AUX 2, TAPE 1/DA TAPE, TAPE 2, TAPE 3/EXT	0.8 Hz~150 kHz (−3 dB) +0, −0.1 dB (20 Hz~20 kHz)
Tone controls	
BASS	50 Hz, +10 dB~−10 dB
TREBLE	20 kHz, +10 dB~−10 dB
Subsonic filter	20 Hz, −6 dB/oct.
Loudness control (volume at −30 dB)	50 Hz, +9 dB
Muting	−20 dB
Output voltage and impedance	
TAPE 1, 2 REC OUT	150 mV
Channel balance, AUX 250 Hz~6,300 Hz	±1 dB
Channel separation, AUX 1 kHz	55 dB
Headphones output level and impedance	700 mV/330Ω
Load impedance	
MAIN or REMOTE	4Ω~16Ω
MAIN and REMOTE	8Ω~16Ω

■ GENERAL

Power consumption	750W
Power supply	
For United Kingdom and Australia	AC 50 Hz/60 Hz, 110V/127V/220V/240V
For continental Europe	AC 50 Hz/60 Hz, 220V
For others	AC 50 Hz/60 Hz, 110V/127V/220V/240V
Dimensions (W×H×D)	430 × 158 × 393 mm (16-15/16" × 6-7/32" × 15-15/32")
Weight	11.7 kg (25.74 lb.)

Notes:
1. Specifications are subject to change without notice.
   Weight and dimensions are approximate.
2. Total harmonic distortion is measured by the digital spectrum analyzer (H.P. 3045 system).

Specifications are subject to chnge without notice for further improvement.

Technics

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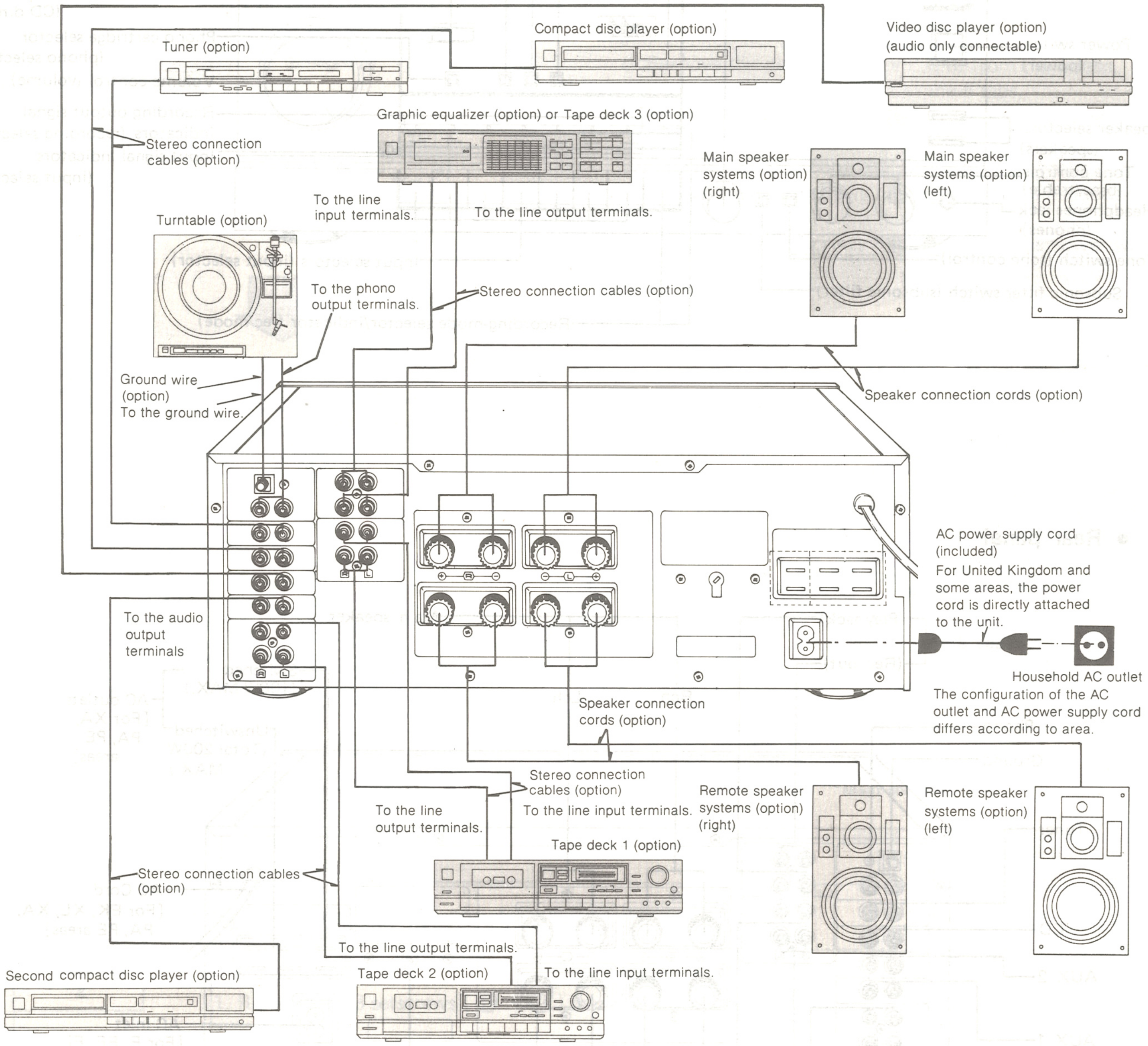
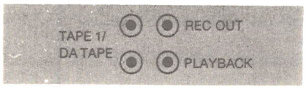
CONNECTIONS



Compact disc player (option)
Video disc player (option)
(audio only connectable)
Tuner (option)
Graphic equalizer (option) or Tape deck 3 (option)
Stereo connection cables (option)
Main speaker systems (option) (right)
Main speaker systems (option) (left)
To the line input terminals.
To the line output terminals.
Turntable (option)
To the phono output terminals.
Stereo connection cables (option)
Ground wire (option)
To the ground wire.
Speaker connection cords (option)
AC power supply cord (included)
For United Kingdom and some areas, the power cord is directly attached to the unit.
To the audio output terminals
Household AC outlet
The configuration of the AC outlet and AC power supply cord differs according to area.
Speaker connection cords (option)
Stereo connection cables (option)
To the line input terminals.
To the line output terminals.
Remote speaker systems (option) (right)
Remote speaker systems (option) (left)
Tape deck 1 (option)
Stereo connection cables (option)
To the line output terminals.
Second compact disc player (option)
Tape deck 2 (option)
To the line input terminals.
R
L

"TAPE 1/DA TAPE" terminals

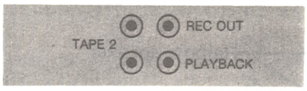
In addition to a tape deck, the audio from a digital audio processor or video cassette recorder (audio only) can be connected here. If such equipment is connected, connect the tape deck to the "TAPE 2" terminals.



TAPE 1/ DA TAPE
REC OUT
PLAYBACK

"TAPE 2" terminals

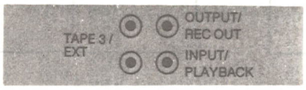
Connect a second audio tape deck.



TAPE 2
REC OUT
PLAYBACK

"TAPE 3/EXT" terminals

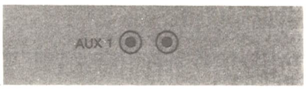
Connect a third audio tape deck or a graphic equalizer, etc.



TAPE 3/ EXT
OUTPUT/ REC OUT
INPUT/ PLAYBACK

"AUX 1" terminals

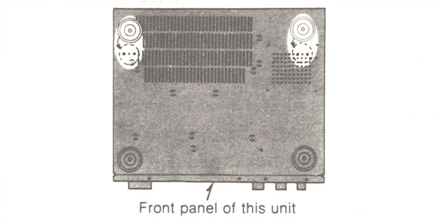
Use these terminals to connect second compact disc player (digital audio disc), or tape deck (playback only).



Placement Hints

To place this unit on a cassette deck or other equipment which has a smaller depth dimension, change the installation location of the feet.

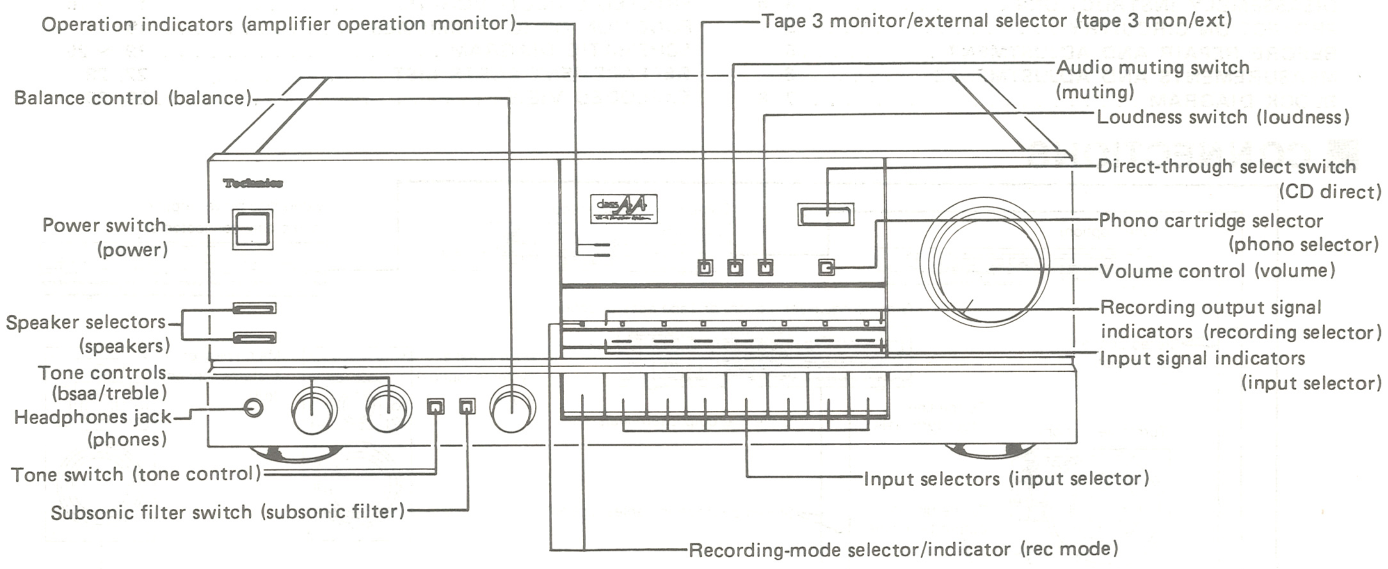
Disconnect the unit from AC mains before attempting this procedure, and use only the screws provided with the feet.



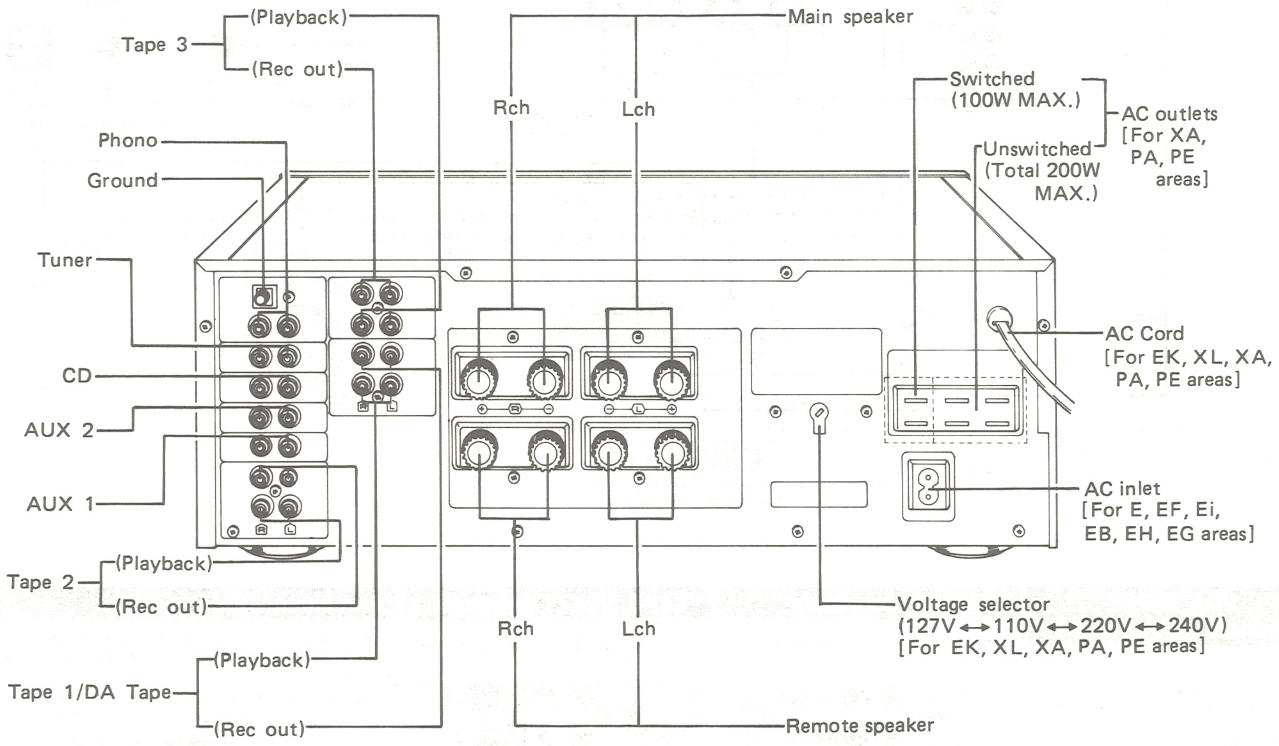
Front panel of this unit

LOCATION OF CONTROLS

• Front panel


Operation indicators (amplifier operation monitor)
Tape 3 monitor/external selector (tape 3 mon/ext)
Balance control (balance)
Audio muting switch (muting)
Loudness switch (loudness)
Direct-through select switch (CD direct)
Power switch (power)
Phono cartridge selector (phono selector)
Volume control (volume)
Speaker selectors (speakers)
Recording output signal indicators (recording selector)
Tone controls (bsaa/treble)
Input signal indicators (input selector)
Headphones jack (phones)
Tone switch (tone control)
Input selectors (input selector)
Subsonic filter switch (subsonic filter)
Recording-mode selector/indicator (rec mode)
Technics

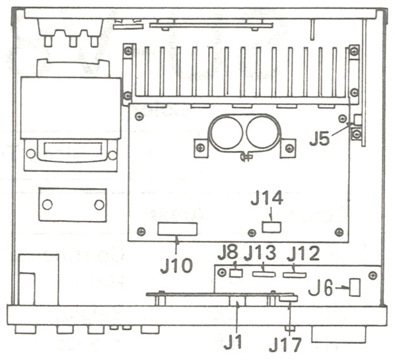
• Rear panel


Tape 3
(Playback)
(Rec out)
Main speaker
Rch
Lch
Switched (100W MAX.)
AC outlets [For XA, PA, PE areas]
Unswitched (Total 200W MAX.)
Phono
Ground
Tuner
AC Cord [For EK, XL, XA, PA, PE areas]
CD
AUX 2
AUX 1
AC inlet [For E, EF, Ei, EB, EH, EG areas]
Tape 2
(Playback)
(Rec out)
Voltage selector (127V↔110V↔220V↔240V) [For EK, XL, XA, PA, PE areas]
Rch
Lch
Tape 1/DA Tape
(Playback)
(Rec out)
Remote speaker

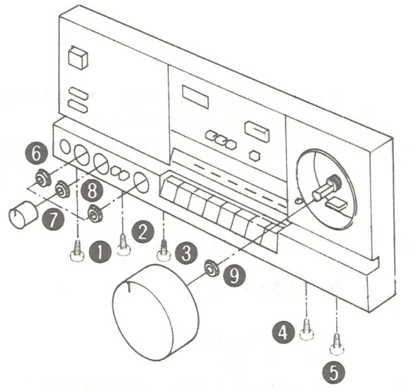
Ref. No. 1 | **How to remove the front panel and sub P.C.B.**

Procedure 1

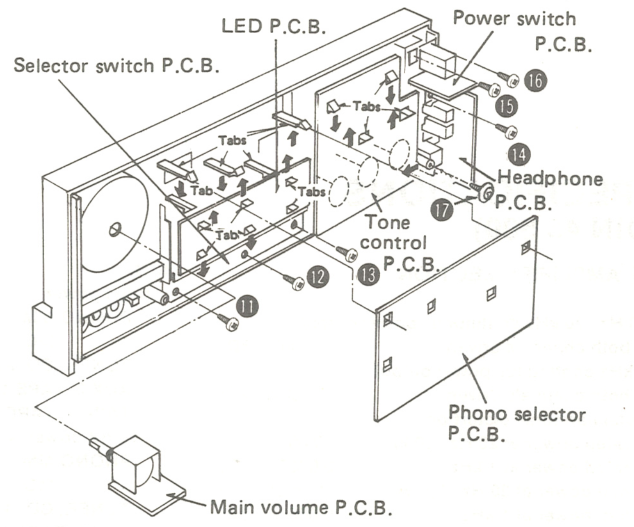
1. Remove the cabinet.
2. Remove the connectors J1, J2, J5, J6, J10 and J14.


J5
J14
J10
J8
J13
J12
J6
J1
J17

3. Remove the 5 screws (❶ ~ ❺).
4. Remove the 3 nuts (❻ , ❽)
5. Remove the front panel.



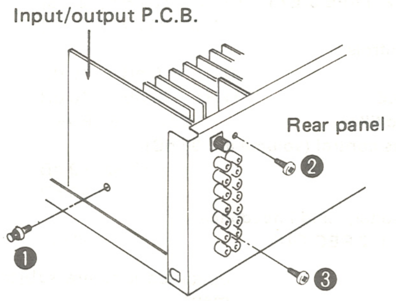
6. Remove the phono selector P.C.B. from the 5 tabs.
7. Remove the LED P.C.B. from the 6 tabs.
8. Remove the 3 setscrews (⓫ ~ ⓭) from the selector switch P.C.B.
9. Remove the tone control P.C.B. from the 4 tabs.
10. Remove the 2 setscrews (⓮, ⓱) from the headphone P.C.B. and then remove it from the tabs.
11. Remove the 2 setscrews (⓯, ⓰) from the power switch P.C.B.


LED P.C.B.
Power switch P.C.B.
Selector switch P.C.B.
⓰
⓯
Tabs
Tabs
Tabs
Tab
Tab
⓮
Headphone P.C.B.
⓱
Tone control P.C.B.
⓬
⓭
⓫
Phono selector P.C.B.
Main volume P.C.B.

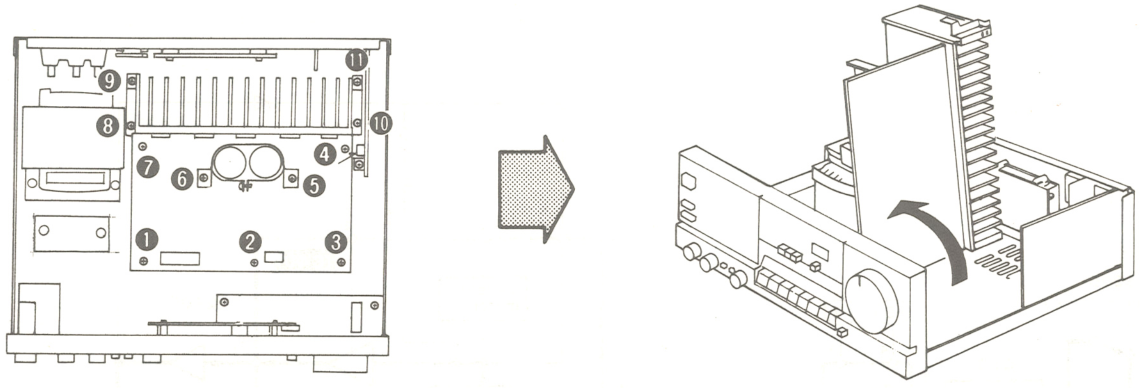
Ref. No. 2 | **How to remove the input/output P.C.B.**

Procedure 2

1. Remove the 3 setscrews (❶ ~ ❸) from the input/output P.C.B.


Input/output P.C.B.
Rear panel
❷
❶
❸

Ref. No. 3	How to remove the main P.C.B.
Procedure 3	1. Remove the 11 setscrews (① ~ ⑪) from the main P.C.B. and heat-sink. 2. Remove the P.C.B. by raising it in the direction of the arrow.



PROTECTION CIRCUITRY

The protection circuitry may have operated if either of the following conditions is noticed:

- No sound is heard when the power is turned on.
- Sound stops during a performance.

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted", or if speaker systems with an impedance less than the indicated rated impedance of this unit are used.

If this occurs, follow the procedure outlines below:

1. Turn off the power.
2. Determine the cause of the problem and correct it.
3. Turn on the power once again after one minute.

Note

When the protection circuitry functions, the unit will not operate unless the power is first turned off and then on again.

BEFORE REPAIR AND ADJUSTMENT

(1) Turn off the power supply. Using a 10Ω, 5W resistor, shortcircuit both ends of power supply capacitors (C601, C602) in order to discharge the voltage.

(2) Before turning on the power switch of the set . . .

A. Connect the voltage controller to the primary side.
B. Connect the AC ampere meter to the primary side or connect the DC voltage metar to the "±B" circuit of the secondary side.
C. Turn the VR of ICQ (VR501 and VR502) to minimum (counterclockwise).
D. After setting the output to zero of the voltage contoller, turn on the power switch of the set.
And increase the output of voltage controller gradually.
Then, check carefully whether the current value of primary side become more than followings value or whether the DC voltage of secondary side is increasing slowly.
E. If the value of current is increasing unusually or the DC voltage is not increasing, lower the output level of voltage contoller immediately.
F. Check the transistors of voltage amplifier and current amplifier IC501.
G. After repairing, adjust the ICQ.

- The current value of the primary side at no signal. (Confirm the power supply voltage of each area and provided voltage of the set.)

Power supply voltage	AC110V	AC127V	AC220V	AC240V
Consumed current 50/60Hz	270 ~ 730mA	240 ~ 630mA	130 ~ 370mA	120 ~ 330mA

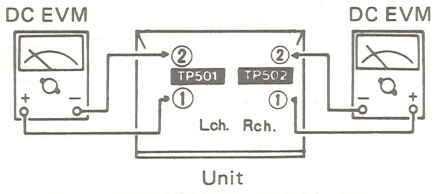
MEASUREMENTS AND ADJUSTMENTS

Control positions and equipment used.

- Volume knob . . . . ∞ (Minimum)
- Main speaker selector . . . . off
- Remote speaker selector . . . . off
- DC electronic voltmeter (EVM)

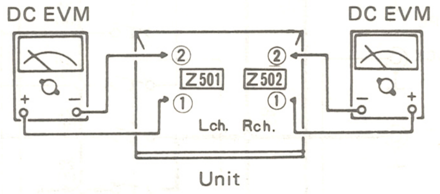
VOLTAGE CONTROL (V) AMP. IDLING (ICQ) ADJUSTMENT

1. Test equipment connection is shown in figure. (Connect the DC EVM. on both channels.)
2. Completely turn the (V) amp. adjusting volumes **(VR451, VR452)** counter-clockwise.
3. Turn ON the set when it is cold, and immediately adjust **VR451** and **VR452** so that the voltage is **25mV.** Also, check that the voltage is **25 – 30mV** (standard: **27mV)** after lapse of **10 – 15 minutes.** (Below **30mV** after lapse of **20 min.)**

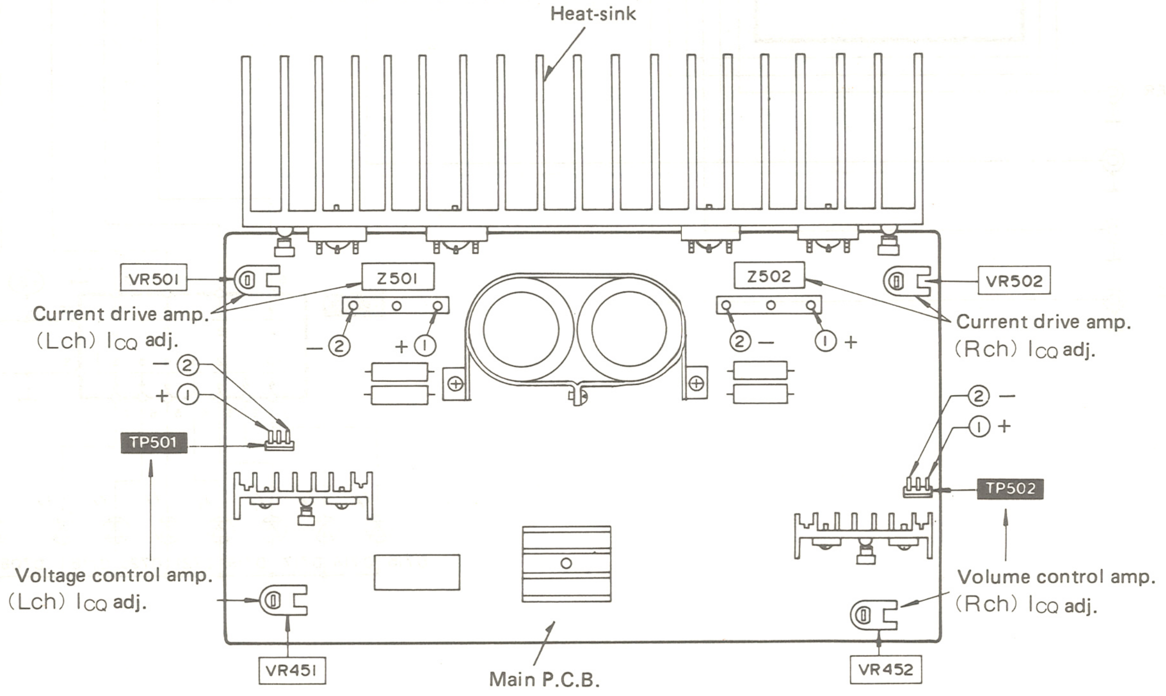


CURRENT DRIVE (C) AMP. IDLING (ICQ) ADJUSTMENT

1. Test equipment connection is shown in figure. (Connect the DC EVM. on both channels.)
2. Completely turn the (C) amp. adjusting volumes **(VR501, VR502)** counterclockwise.
3. Turn ON the set when it is cold, and after the adjustment of the (V) amp. ICQ, adjust **VR501** and **VR502** so that the voltage is **3mV.** Also, check that the voltage is **4 – 7mV** (standard: **5mV)** after lapse of **10 – 15 minutes.** (Below **10mV** after lapse of **20 min.)**

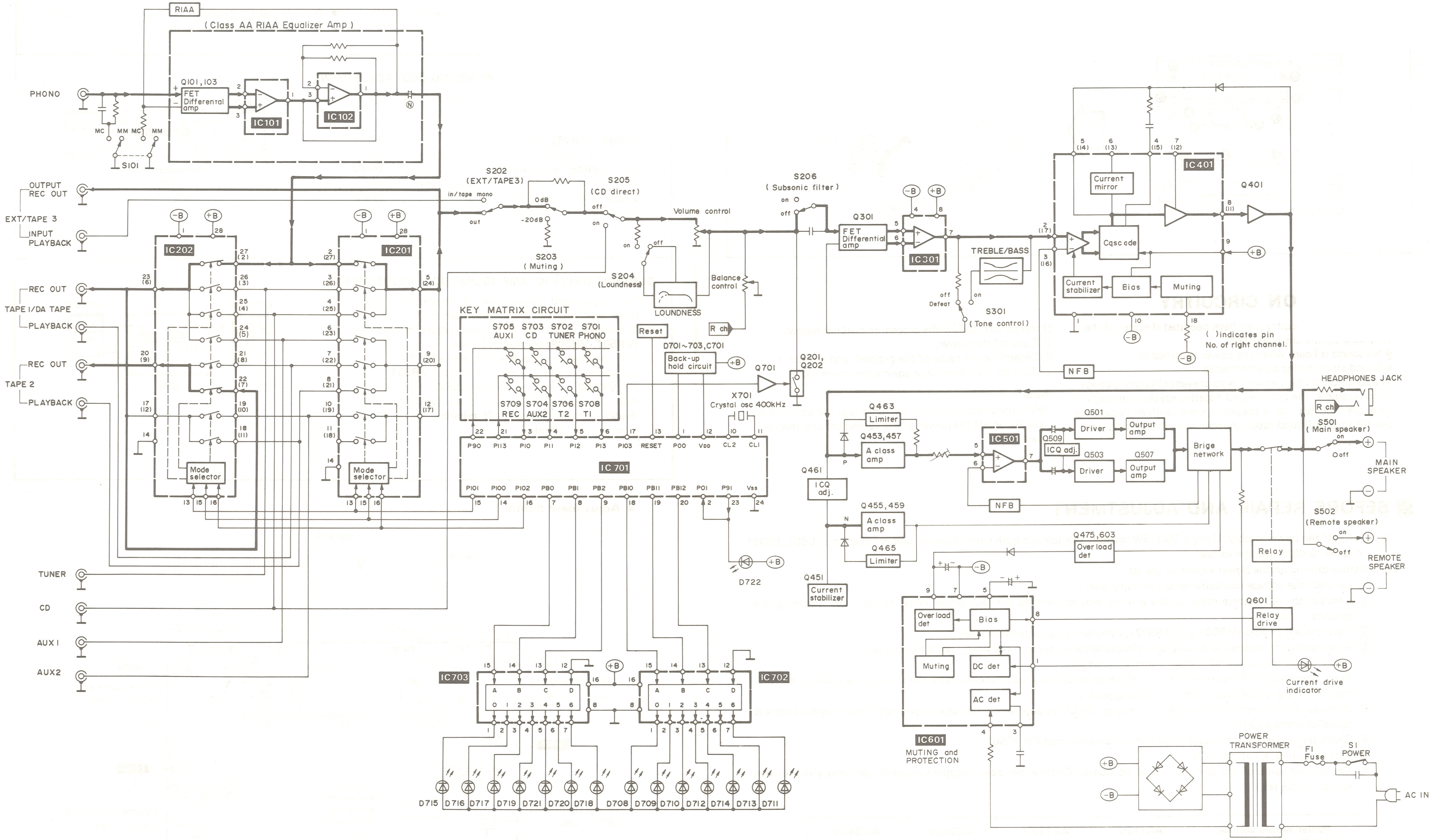


- **Adjustment points**



Heat-sink
VR501
Z501
Z502
VR502
Current drive amp. (Lch) ICQ adj.
–②
+①
②–
①+
Current drive amp. (Rch) ICQ adj.
– ②
+ ①
②–
①+
TP501
TP502
Voltage control amp. (Lch) ICQ adj.
Volume control amp. (Rch) ICQ adj.
VR451
Main P.C.B.
VR452

■ BLOCK DIAGRAM


RIAA
(Class AA RIAA Equalizer Amp)
PHONO
Q101,103
FET Differental amp
IC101
IC102
MC
MM
S101
OUTPUT REC OUT
EXT/TAPE 3
INPUT PLAYBACK
REC OUT
TAPE I/DA TAPE
PLAYBACK
REC OUT
TAPE 2
PLAYBACK
IC202
IC201
Mode selector
TUNER
CD
AUX1
AUX2
S202 (EXT/TAPE3)
in/tape mono
out
0dB
-20dB
S203 (Muting)
S205 (CD direct)
off
on
S204 (Loundness)
LOUNDNESS
Volume control
Balance control
R ch
KEY MATRIX CIRCUIT
S705 AUX1
S703 CD
S702 TUNER
S701 PHONO
S709 REC
S704 AUX2
S706 T2
S708 T1
Reset
D701~703,C701
Back-up hold circuit
Q701
X701 Crystal osc 400kHz
Q201, Q202
IC701
P90 P113 P10 P11 P12 P13 P103 RESET P00 VDD CL2 CL1
P101 P100 P102 PB0 PB1 PB2 PB10 PB11 PB12 P01 P91 VSS
D722
IC703
IC702
A B C D
0 1 2 3 4 5 6
D715 D716 D717 D719 D721 D720 D718 D708 D709 D710 D712 D714 D713 D711
S206 (Subsonic filter)
Q301
FET Differential amp
IC301
TREBLE/BASS
off Defeat
S301 (Tone control)
IC401
Current mirror
Cascode
Current stabilizer
Bias
Muting
Q401
NFB
( ) indicates pin No. of right channel.
HEADPHONES JACK
R ch
S501 (Main speaker)
MAIN SPEAKER
S502 (Remote speaker)
REMOTE SPEAKER
Q463
Limiter
Q453,457
A class amp
IC501
Q509
ICQ adj.
Q501
Driver
Output amp
Q503
Q507
Brige network
Q461
ICQ adj.
Q455,459
A class amp
Q465
Limiter
Q451
Current stabilizer
Q475,603
Over load det
Relay
Q601
Relay drive
Current drive indicator
IC601
MUTING and PROTECTION
Over load det
Bias
Muting
DC det
AC det
POWER TRANSFORMER
F1 Fuse
S1 POWER
AC IN
+B
-B

REPLACEMENT PARTS LIST

Notes: * Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* Bracketed indications in Ref. No. columns specify the area.
Parts without these indications can be used for all areas.

Numbering System of Resistor

Example

ERD	25	F	J	102
Type	Wattage	Shape	Tolerance	Value (10)x10^2ohms

ERX	2	AN	J	471
Type	Wattage	Shape	Tolerance	Value (47)x10^1ohms

Numbering System of Capacitor

Example

ECKD	1H	102	Z	F
Type	Voltage	Value (10x10^2)x10^{-6} microfarad	Tolerance	Peculiarity

ECEA	50	M	331
Type	Voltage	Peculiarity	Value (33)x10^1microfarad

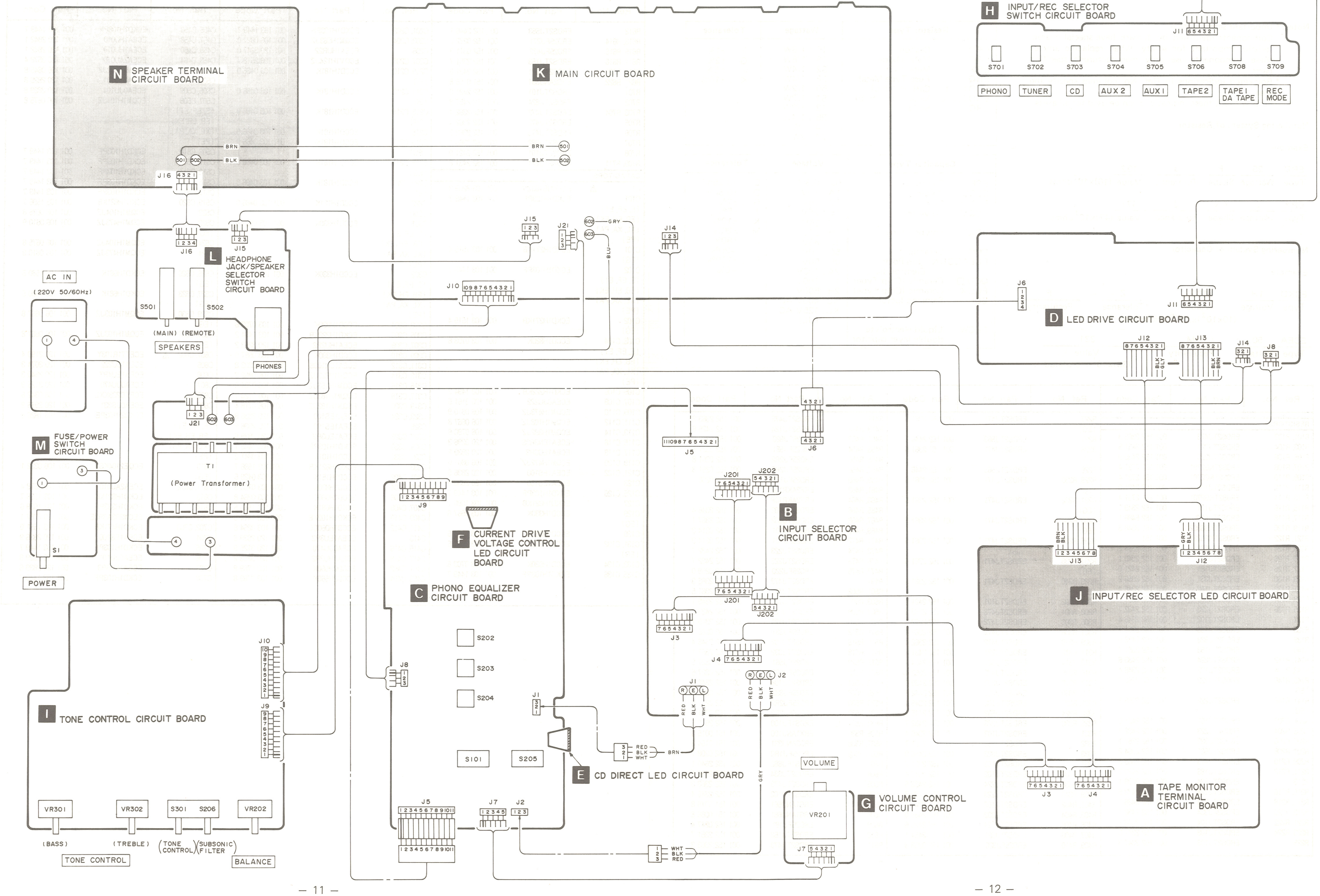
Resistor Type	Wattage	Tolerance
ERD : Carbon ERG : Metal Oxide ERX : Metal Film ERQ : Fuse Type Metal ERD ⬚ L : Carbon (chip) ERO ⬚ K : Metal Film (chip) ERC : Solid	10 : 1/8W 18 : 1/8W S2 : 1/4W 2F : 1/4W 50 : 1/2W S1 : 1/2W 12 : 1/2W 25 : 1/4W 1A : 1W 2A : 2W	F : ±1% G : ±2% J : ±5% K : ±10%

Capacitor Type	Voltage	Tolerance
ECE : Electrolytic ECCD : Ceramic ECKD : Ceramic ECQM : Polyester ECQP : Polyproylene ECG : Ceramic ECEA□□□N: Non Polar Electrolytic QCU□ : Ceramic (Chip Type) ECUX : Ceramic (Chip Type) ECF : Semiconductor EECW : Liquid electrolyte double layer capcitor	0J : 6.3V 1A : 10V 1C : 16V 1E : 25V 1V : 35V 1H : 50V 1J : 63V 50 : 50V 05 : 50V 2A : 100V 1 : 100V 2H : 500V KC : 400V AC KC : 125V AC (UL)	C : ±0.25pF D : ±0.5pF G : ±2% J : ±5% K : ±10% M : ±20% Z : +80% −20% P : +100% −0%

Ref. No.	Part No.	Part Code
RESISTORS		
R101, R102	ERDS2TJ473	001 152 2363 3
R103, R104	ERDS2TJ221	001 152 2431 8
R105, R106	ERDS2TJ220	001 152 2430 9
R107, R108	ER0S2TKG2701	001 151 2731 4
R109, R110	ER0S2TKG2701	001 151 2731 4
R111, R112	ERDS2TJ101	001 152 2421 0
R113, R114	ER0S2TKG2701	001 151 2731 4
R115, R116	ERDS2TJ121	001 152 2349 1
R117, R118	ERDS2TJ8R2	001 152 5486 1
R119, R120	ER0S2TKG6802	001 151 3348 3
R121, R122	ER0S2TKF5231	001 151
R123, R124	ERDS2TJ561	001 152 2364 2
R125, R126	ERDS2TJ121	001 152 2349 1
R127, R128	ERDS2TJ101	001 152 2421 0
R129, R130	ERDS2TJ331	001 152 2356 2
R131, R132	ERDS2TJ102	001 152 2346 4
R133, R134	ERDS2TJ332	001 152 2357 1
R135, R136	ERDS2TJ223	001 152 2432 7
R137	ERDS2TJ102	001 152 2346 4
R138	ERDS2TJ153	001 152 2351 7
R139	ERDS2TJ823	001 152 2456 9
R140	ERDS2TJ153	001 152 2351 7
R141, R142	ERDS2TJ224	001 152 2433 6
R143, R144	ERDS2TJ102	001 152 2346 4
R145, R146	ERDS2TJ222	001 152 2353 5
(EG)		
R147, R148	ERDS2TJ222	001 152 2353 5
(EG)		
R201, R202	ERDS2TJ101	001 152 2421 0
R203, R204	ERDS2TJ223	001 152 2432 7
R205, R206	ERDS2TJ332	001 152 2357 1
R207, R208	ERDS2TJ561	001 152 2364 2
R209, R210	ERDS2TJ473	001 152 2363 3
R211, R212	ERDS2TJ183	001 152 2429 2
R213	ERDS2TJ334	001 152 2438 1
R215, R216	ERDS2TJ224	001 152 2433 6
R217, R218	ERDS2TJ334	001 152 2438 1
R219, R220	ERDS2TJ334	001 152 2438 1
R221, R222	ERDS2TJ104	001 152 2348 2
R223, R224	ERDS2TJ103	001 152 2347 3
R225	ERDS2TJ103	001 152 2347 3
R227	ERDS2TJ471	001 152 2361 5
(EG)		
R227	ERDS2TJ563	001 152 2446 1
R228	ERDS2TJ471	001 152 2361 5
(EG)		
R228	ERDS2TJ563	001 152 2446 1
R229, R230	ERDS2TJ471	001 152 2361 5
(EG)		
R231, R232	ERDS2TJ471	001 152 2361 5
(EG)		
R233, R234	ERDS2TJ471	001 152 2361 5
(EG)		
R235, R236	ERDS2TJ471	001 152 2361 5
(EG)		
R237, R238	ERDS2TJ471	001 152 2361 5
(EG)		
R239, R240	ERDS2TJ471	001 152 2361 5
(EG)		
R301, R302	ERDS2TJ101	001 152 2421 0
R303, R304	ERDS2TJ473	001 152 2363 3
R305, R306	ERDS2TJ472	001 152 2362 4
R307, R308	ERDS2TJ472	001 152 2362 4
R309, R310	ERDS2TJ472	001 152 2362 4
R311, R312	ERDS2TJ221	001 152 2431 8
R313, R314	ERDS2TJ821	001 152 2454 1
R315, R316	ERDS2TJ472	001 152 2362 4
R317, R318	ERDS2TJ392	001 152 2439 0
R319, R320	ERDS2TJ223	001 152 2432 7
R321, R322	ERDS2TJ102	001 152 2346 4
R323, R324	ERDS2TJ562	001 152 2445 2
R329, R330	ERDS2TJ223	001 152 2432 7
R331	ERDS2TJ102	001 152 2346 4
R332	ERDS2TJ153	001 152 2351 7
R333	ERDS2TJ823	001 152 2456 9
R334	ERDS2TJ153	001 152 2351 7
R335, R336	ERDS2TJ102	001 152 2346 4
R337, R338	ERDS2TJ224	001 152 2433 6
R339, R340	ERDS2TJ223	001 152 2432 7
R401, R402	ERDS2TJ102	001 152 2346 4
R403, R404	ERDS2TJ392	001 152 2439 0
R405, R406	ERDS2TJ124	001 152 2425 6
R407, R408	ERDS2TJ821	001 152 2454 1
R409, R410	ERD25FJ820	001 152 0353 3
R411	ERDS2TJ473	001 152 2363 3
R413, R414	ERDS2TJ124	001 152 2425 6
R451, R452	ERD25FJ820	001 152 0353 3
R453, R454	ERD25FJ561	001 152 0327 5
R455, R456	ERD25FJ2R2	001 152 0251 8
R457, R458	ERD25FJ2R2	001 152 0251 8
R459, R460	ERD25FJ1R0	001 152 0208 1
R461, R462	ERF2AKR10P	
R463, R464	ERF2AKR10P	
R465, R466	ERDS2TJ102	001 152 2346 4
R467, R468	ERDS2TJ332	001 152 2357 1
R469, R470	ERD25FJ101	001 152 0214 3
R471, R472	ERD25FJ101	001 152 0214 3
R473, R474	ERDS2TJ223	001 152 2432 7
R475, R476	ERDS2TJ223	001 152 2432 7
R477, R478	ERD25FJ220	001 152 0259 0
R497	ERDS2TJ473	001 152 2363 3
R501, R502	ERDS2TJ471	001 152 2361 5
R503, R504	ERDS2TJ121	001 152 2349 1
R507, R508	ERDS2TJ122	001 152 2423 8
R509, R510	ERDS2TJ121	001 152 2349 1
R511, R512	ERD25FJ331	001 152 0286 7
R515, R516	ERDS2TJ102	001 152 2346 4
R517, R518	ERDS2TJ332	001 152 2357 1
R519, R520	ERD25FJ561	001 152 0327 5
R521, R522	ERD25FJ561	001 152 0327 5
R523, R524	ERDS2TJ104	001 152 2348 2
R525, R526	ERD25FJ332	001 152 0287 6
R529, R530	ERD25FJ2R2	001 152 0251 8
R531, R532	ERD25FJ2R2	001 152 0251 8
R533, R534 ⚠	ERDS1FJ100	001 152 2612 5
R535, R536	ERX1ANJ100	001 151 0015 3
R537, R538	ERG2ANJ331	001 151 0154 3
R601, R602	ERD25FJ1R0	001 152 0208 1
R603	ERDS1FJ682	001 152 2640 1
R604	ERDS2TJ334	001 152 2438 1
R605	ERDS2TJ473	001 152 2363 3
R606	ERDS2TJ102	001 152 2346 4
R607	ERG1ANJ561	001 151 0078 8
R608	ERG1ANJ681	001 151 0086 8
R609	ERD25FJ181	001 152 0247 4
R610	ERDS2TJ153	001 152 2351 7
R611	ERDS2TJ473	001 152 2363 3

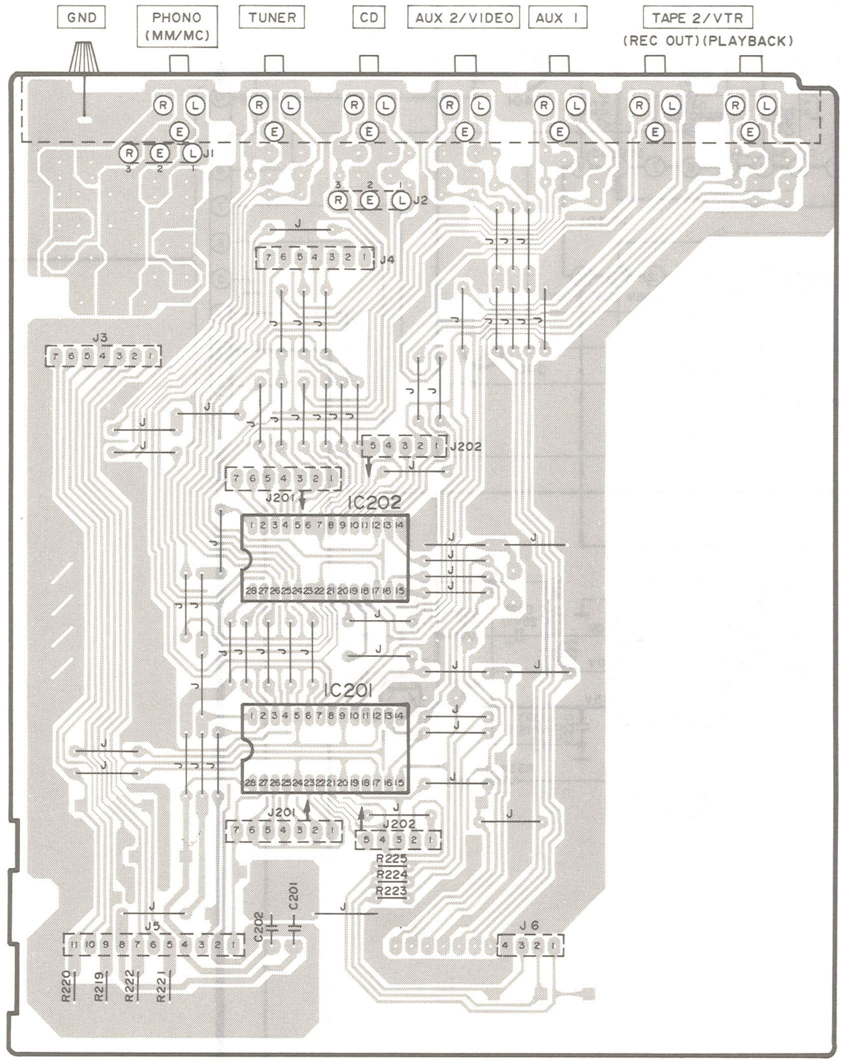
Ref. No.	Part No.	Part Code
R612	ERDS2TJ563	001 152 2446 1
R613, R614	ERD25FJ271	001 152 0272 3
R615, R616	ERD25FJ472	001 152 0311 3
R617, R618	ERDS2TJ153	001 152 2351 7
R619, R620	ERDS2TJ221	001 152 2431 8
R621, R622	ERG2ANJ391	001 151 0159 8
R701	ERDS2TJ101	001 152 2421 0
R702	ERDS2TJ824	001 152 2457 8
R703, R704	ERDS2TJ472	001 152 2362 4
R705	ERDS2TJ472	001 152 2362 4
R706	ERDS2TJ473	001 152 2363 3
R707	ERDS2TJ682	001 152 2365 1
R708	ERDS2TJ101	001 152 2421 0
R709, R711	ERDS2TJ221	001 152 2431 8
CAPACITORS		
C1 ⚠	ECKWNS103ZV	001 103 8209 3
C101	ECKD1H103PF	001 103 1449 7
(E, EF, EI)		
(EB, EH, EK)		
(XL, XA, PA)		
(PE)		
C101	ECKD1H271KB	001 103 1515 4
(EG)		
C102	ECKD1H103PF	001 103 1449 7
(E, EF, EI)		
(EB, EH, EK)		
(XL, XA, PA)		
(PE)		
C102	ECKD1H271KB	001 103 1515 4
(EG)		
C103, C104	ECCD1H820K	001 103 0703 6
(E, EF, EI)		
(EB, EH, EK)		
(XL, XA, PA)		
(PE)		
C105, C106	ECKD1H222KB	001 103 1494 2
C107, C108	ECEA0JU222	001 120 3161 5
C109, C110	ECQM1H473JZ	001 106 0810 9
C111, C112	ECQM1H103JZ	001 106 0667 8
C113, C114	ECQM1H392JZ	001 106 0790 6
C115, C116	ECEA1EN3R3S	001 120 0296 3
C117, C118	ECEA1EU3R3	001 120 2839 6
C119, C120	ECQM1H472JZ	001 106 0801 0
C121, C122	ECEA1ES100	001 120 2836 9
C123	ECEA1ES100	001 120 2836 9
C125, C126	ECKD1H103PF	001 103 1449 7
C127	ECKD1H821KB	001 103 1596 7
C129	ECCD1H330K	001 103 0567 6
(EG)		
C130	ECCD1H330K	001 103 0567 6
C131, C132	ECCD1H330K	001 103 0567 6
(EG)		
C133, C134	ECCD1H820K	001 103 0703 6
C135, C136	ECKD1H103PF	001 103 1449 7
C201, C202	ECKD1H103PF	001 103 1449 7
C203, C204	ECQM1H563JZ	001 106 0827 0
C205	ECEA1HUR22	001 120 3247 0
C207, C208	ECQV1H124JZ	001 106 2513 7
C209, C210	ECCD1H181K	001 103 0466 0
(EG)		
C211, C212	ECCD1H181K	001 103 0466 0
(EG)		
C213, C214	ECCD1H181K	001 103 0466 0
(EG)		
C215	ECCD1H181K	001 103 0466 0
C216, C217	ECCD1H181K	001 103 0466 0
(EG)		
C218, C219	ECCD1H181K	001 103 0466 0
(EG)		
C220, C221	ECCD1H181K	001 103 0466 0
(EG)		
C222	ECCD1H181K	001 103 0466 0
(EG)		
C301	ECCD1H330K	001 103 0567 6
(E, EF, EI)		
(EB(EH(EK)		
(XL, XA, PA)		
(PE)		
C302	ECCD1H330K	001 103 0567 6
(E, EF, EI)		
(EB, EH, EK)		
(XL, XA, PA)		
(PE)		
C303, C304	ECCD1H820K	001 103 0703 6
C305, C306	ECKD1H222KB	001 103 1494 2
C307, C308	ECEA1HU2R2	001 120 3253 2
C309, C310	ECCD1H390K	001 103 0597 0
C311, C312	ECEA1CN100S	001 120 0233 8
C313, C314	ECQM1H823JZ	001 106 0852 9
C315, C316	ECQM1H153JZ	001 106 0704 0
C317, C318	ECQM1H183JZ	001 106 0723 7
C319, C320	ECQM1H182JZ	001 106 0718 4
C323, C324	ECEA1ES100	001 120 2836 9
C325	ECEA1ES100	001 120 2836 9
C327, C328	ECEA1EU3R3	001 120 2839 6
C329, C330	ECKD1H103PF	001 103 1449 7
C331, C332	ECCD1H101K	001 103 0341 2
C333	ECKD1H821KB	001 103 1596 7
C401, C402	ECCD1H151K	001 103 0429 5
C403, C404	ECCD1H820K	001 103 0703 6
C405, C406	ECCD1H060CC	001 103 0264 8
C407, C408	ECKD1H681K	001 103 1580 5
C409, C410	ECKD1H102KB	001 103 1414 8
C411, C412	ECCD1H060CC	001 103 0264 8
C413	ECEA1EU3R3	001 120 2839 6
C415, C416	ECEA0JU470	001 120 3125 9
C417, C418	ECEA1HU2R2	001 120 3253 2
C451, C452	ECCD2H560K	001 103 0769 8
C453, C454	ECCD2H560K	001 103 0769 8
C455, C456	ECKD1H103PF	001 103 1449 7
C457, C458	ECEA1HU010	001 120 2842 1
C459, C460	ECEA1HU010	001 120 2842 1
C463, C464	ECEA2AU010	001 120 3578 4
C501, C502	ECQM1H822JZ	001 106 0845 8
C503, C504	ECEA0JU101	001 120 2829 8
C505, C506	ECEA0JU101	001 120 2829 8
C507, C508	ECQM1H104JZ	001 106 0675 8
(E, EF, EI)		
(EB, EH, EK)		
(XL, XA, PA)		
(PE)		
C509, C510	ECKD1H103PF	001 103 1449 7
C511, C512	ECKD1H103PF	001 103 1449 7
C513, C514	ECKD1H103PF	001 103 1449 7
C515, C516	ECKD1H103PF	001 103 1449 7
C517, C518	ECKD1H103PF	001 103 1449 7
C519, C520	ECKD1H821KB	001 103 1596 7
C523	ECQM1H104JZ	001 106 0675 8
C523	ECQM1H473JZ	001 106 0810 9
(EG)		
C524	ECQM1H104JZ	001 106 0675 8
C524	ECQM1H473JZ	001 106 0810 9
(EG)		
C525, C526	ECKD1H681K	001 103 1580 5
(EG)		
C527, C528	ECKD1H681K	001 103 1580 5
(EG)		
C529, C530	ECQM1H103JZ	001 106 0667 8
(EG)		
C531, C532	ECQM1H103JZ	001 106 0667 8
(EG)		
C601, C602 ⚠	ECET71R103Y	001 120 2190 4
C605	ECEA1CU222	001 120 3074 3
C606	ECEA1EU4R7	001 120 2840 3
C607	ECEA0JU470	001 120 3125 9
C608	ECFTD223KXL	001 108 0342 6
C609	ECEA0JS331	001 120 2975 9
C610	ECKD2H103PE	001 103 1626 8
(E, EF, EI)		
(EB, EH, EK)		
(XL, XA, PA)		
(PE)		
C610	ECQE2104KS	001 106 0232 1
(EG)		
C611, C612	ECEA2AU010	001 120 3578 4
C613	ECKD1H821KB	001 103 1596 7
C614	ECKD1H333PF	001 103 1539 6
C701	EECW2R3A3R3E	001 120 2787 1
C702, C703	ECKD1H471KB	001 103 1551 0
C704	ECEA1ES100	001 120 2836 9
C705	ECKD1H103PF	001 103 1449 7
C706	ECEA0JU101	001 120 2829 8
C707	ECEA1EU3R3	001 120 2839 6
C708	ECKD1H103PF	001 103 1449 7

CIRCUIT BOARDS AND WIRING CONNECTION DIAGRAM

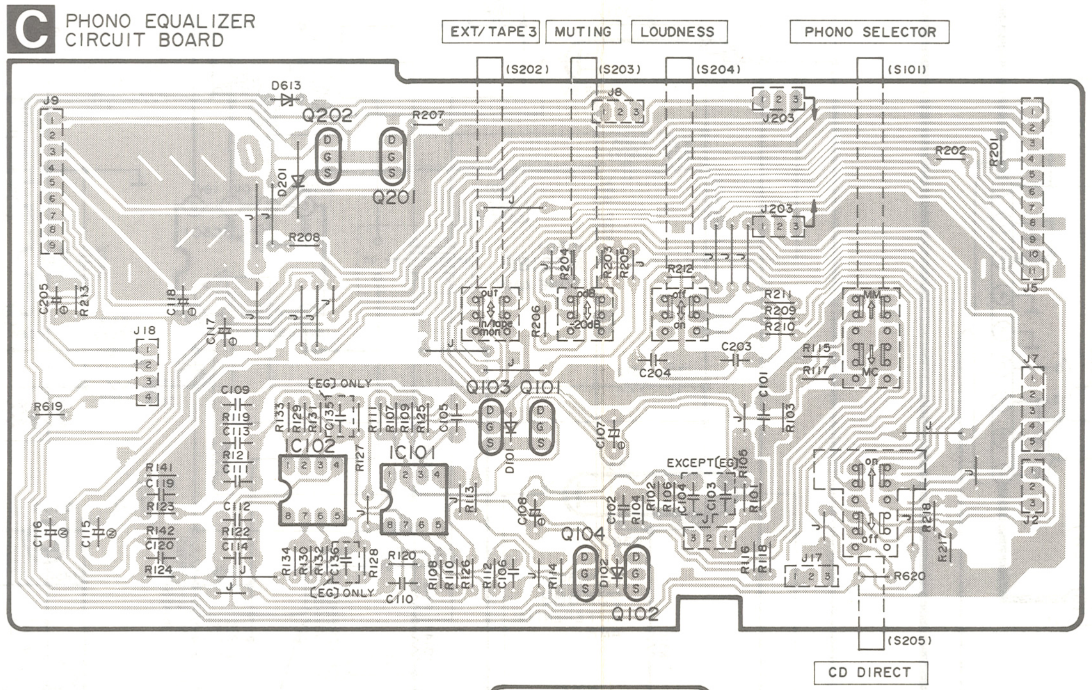

N SPEAKER TERMINAL CIRCUIT BOARD
501
502
BRN
BLK
J16
K MAIN CIRCUIT BOARD
J15
J21
602
603
GRY
BLU
J14
J10
L HEADPHONE JACK/SPEAKER SELECTOR SWITCH CIRCUIT BOARD
S501
S502
(MAIN) (REMOTE)
SPEAKERS
PHONES
AC IN
(220V 50/60Hz)
M FUSE/POWER SWITCH CIRCUIT BOARD
S1
POWER
T1
(Power Transformer)
H INPUT/REC SELECTOR SWITCH CIRCUIT BOARD
J11
S701
S702
S703
S704
S705
S706
S708
S709
PHONO
TUNER
CD
AUX 2
AUX 1
TAPE2
TAPE1 DA TAPE
REC MODE
D LED DRIVE CIRCUIT BOARD
J6
J12
J13
J8
J5
B INPUT SELECTOR CIRCUIT BOARD
J201
J202
J3
J4
J1
J2
R E L
RED
BLK
WHT
J INPUT/REC SELECTOR LED CIRCUIT BOARD
F CURRENT DRIVE VOLTAGE CONTROL LED CIRCUIT BOARD
C PHONO EQUALIZER CIRCUIT BOARD
J9
J8
S202
S203
S204
S101
S205
J7
E CD DIRECT LED CIRCUIT BOARD
VOLUME
VR201
G VOLUME CONTROL CIRCUIT BOARD
A TAPE MONITOR TERMINAL CIRCUIT BOARD
I TONE CONTROL CIRCUIT BOARD
VR301
VR302
S301
S206
VR202
(BASS)
(TREBLE)
(TONE CONTROL)
(SUBSONIC FILTER)
TONE CONTROL
BALANCE

■ PRINTED CIRCUIT BOARDS

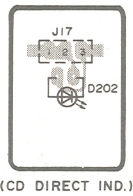
B INPUT SELECTOR CIRCUIT BOARD

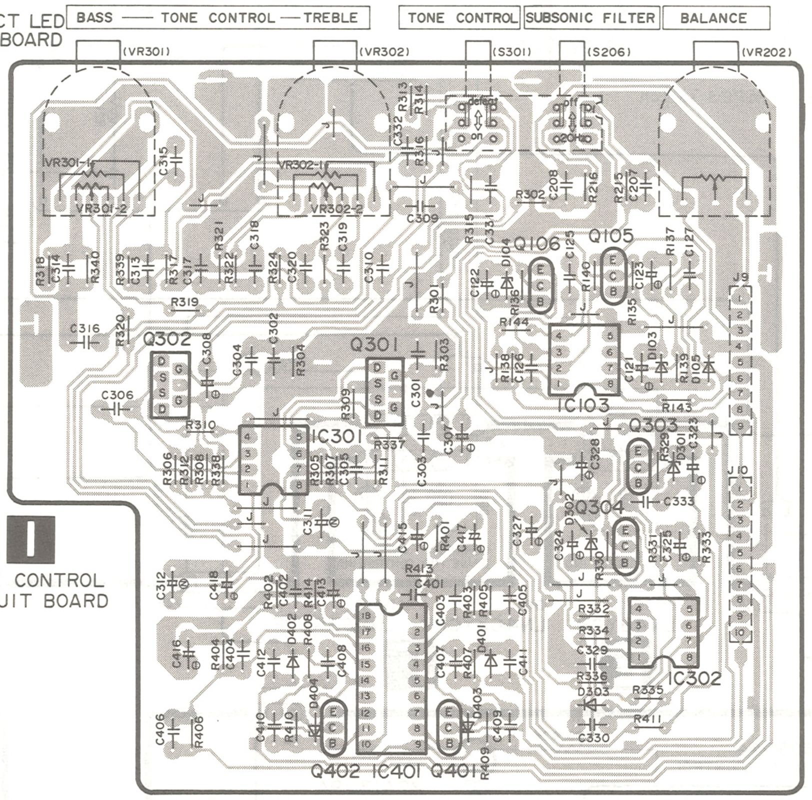

GND
PHONO (MM/MC)
TUNER
CD
AUX 2/VIDEO
AUX 1
TAPE 2/VTR
(REC OUT)(PLAYBACK)
IC202
IC201
J201
J202
J3
J4
J5
J6

C PHONO EQUALIZER CIRCUIT BOARD


EXT/TAPE 3
MUTING
LOUDNESS
PHONO SELECTOR
(S202)
(S203)
(S204)
(S101)
(S205)
CD DIRECT
Q202
Q201
IC102
IC101
Q103
Q101
Q104
Q102
[EQ] ONLY
EXCEPT [EQ]

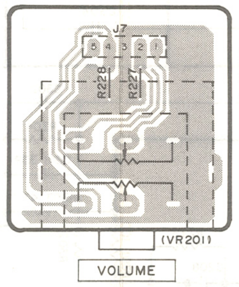
E CD DIRECT LED CIRCUIT BOARD


J17
D202
(CD DIRECT IND.)

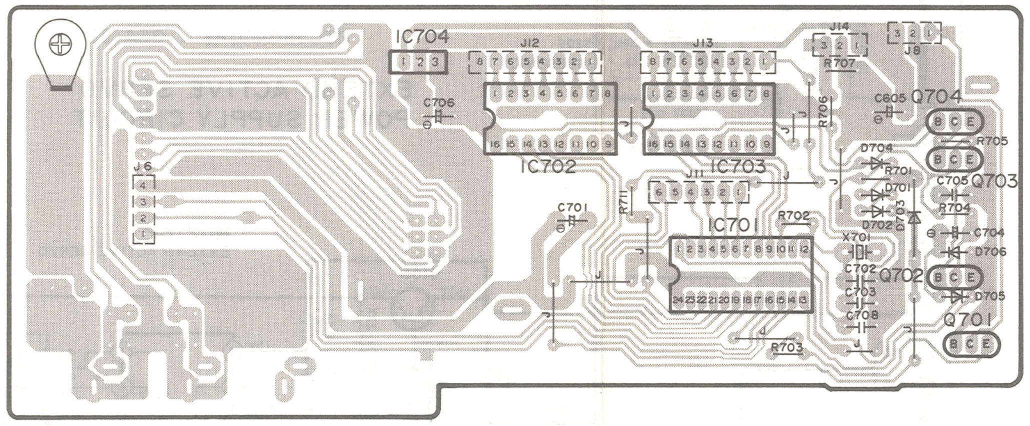

BASS — TONE CONTROL — TREBLE
TONE CONTROL
SUBSONIC FILTER
BALANCE
(VR301)
(VR302)
(S301)
(S206)
(VR202)
Q106
Q105
Q302
Q301
IC301
IC103
Q303
Q304
IC302
Q402
IC401
Q401

I TONE CONTROL CIRCUIT BOARD

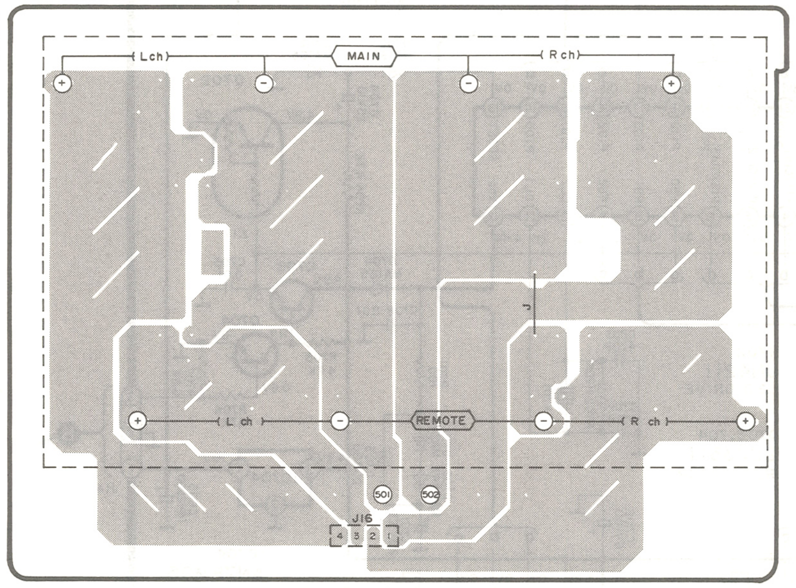
G VOLUME CONTROL CIRCUIT BOARD


J7
(VR201)
VOLUME

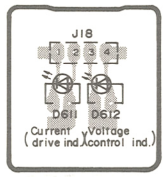
D LED DRIVE CIRCUIT BOARD


IC704
J12
J13
J14
IC702
IC703
IC701
Q704
Q703
Q702
Q701

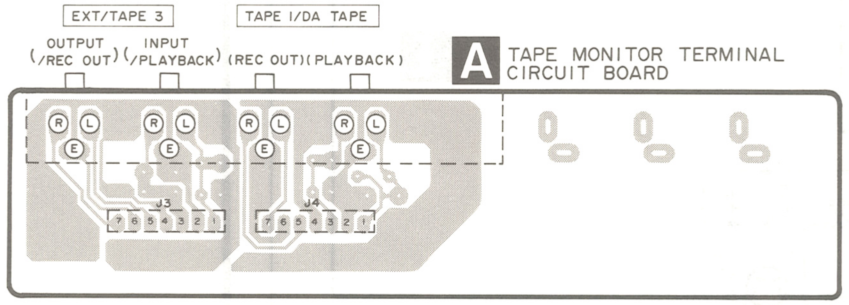
N SPEAKER TERMINAL CIRCUIT BOARD

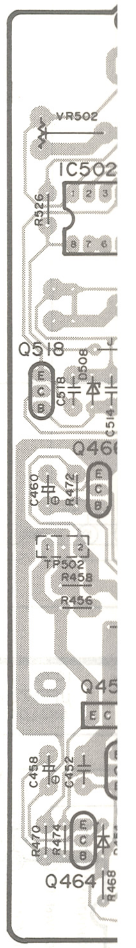

Lch
MAIN
R ch
L ch
REMOTE
R ch
J16

F CURRENT DRIVE VOLTAGE CONTROL LED CIRCUIT BOARD

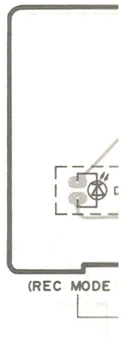

J18
D611
D612
Current drive ind.
Voltage control ind.

A TAPE MONITOR TERMINAL CIRCUIT BOARD

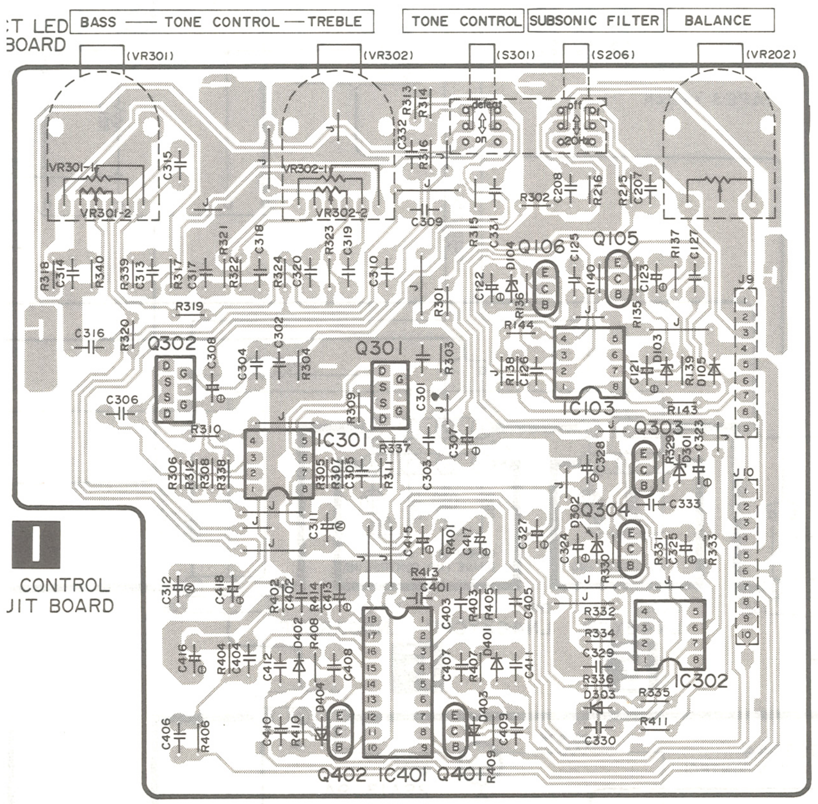

EXT/TAPE 3
OUTPUT (/REC OUT)
INPUT (/PLAYBACK)
TAPE 1/DA TAPE
(REC OUT)(PLAYBACK)
J3
J4


VR502
IC502
Q518
Q464

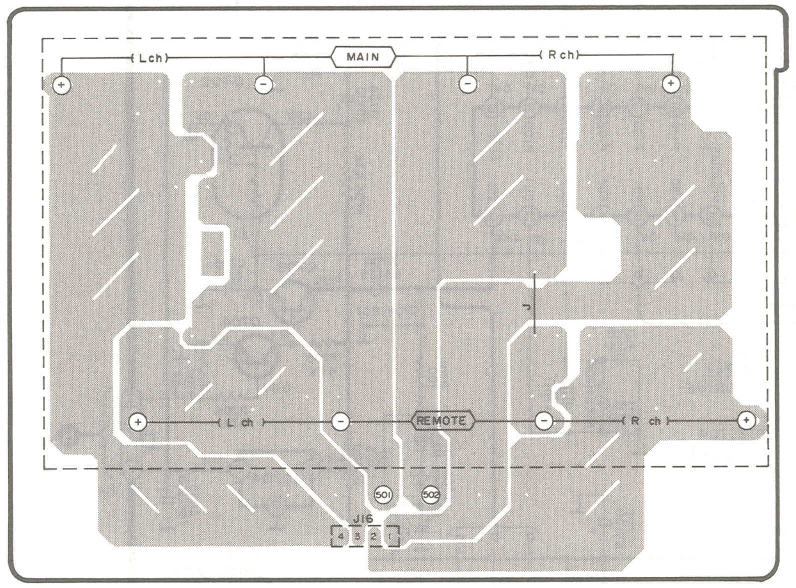
J INPU CIRC



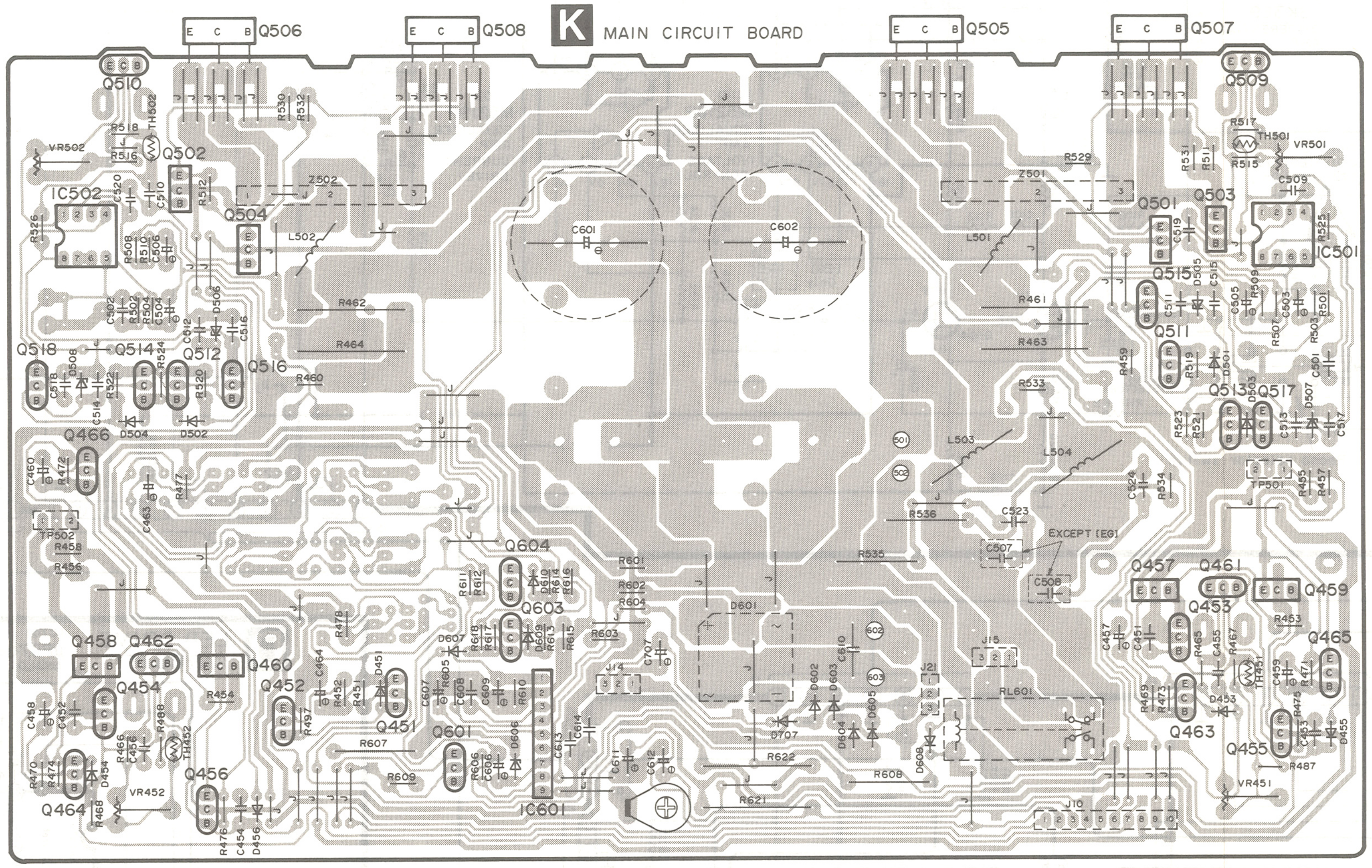
8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17



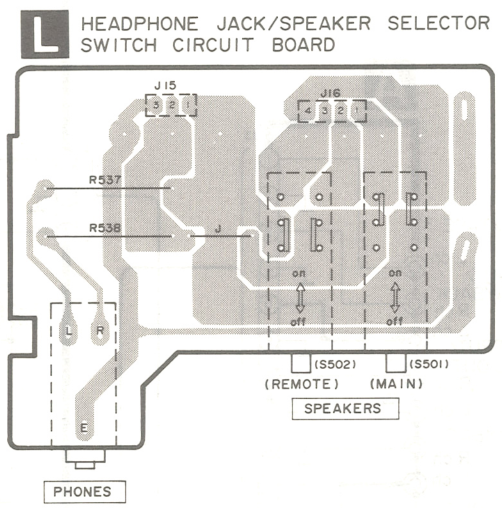
I
CONTROL
…JIT BOARD
…T LED BOARD
BASS — TONE CONTROL — TREBLE
TONE CONTROL
SUBSONIC FILTER
BALANCE
(VR301)
(VR302)
(S301)
(S206)
(VR202)
Q302
Q301
Q106
Q105
Q303
Q304
IC301
IC103
IC302
IC401
Q402
Q401



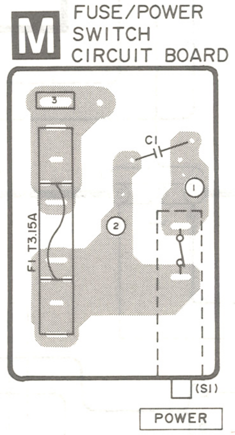
Lch
MAIN
Rch
L ch
REMOTE
R ch
J16



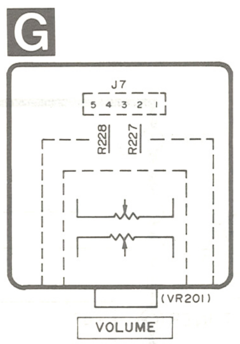
K
MAIN CIRCUIT BOARD
Q506
Q508
Q505
Q507
Q510
Q509
Q502
Q504
IC502
IC501
Q501
Q503
Q515
Q511
Q513
Q517
Q518
Q514
Q512
Q516
Q466
Q604
Q603
Q601
Q458
Q462
Q460
Q454
Q452
Q451
Q456
Q464
Q457
Q461
Q459
Q453
Q465
Q463
Q455
IC601
C601
C602
L501
L502
L503
L504
RL601
D601
VR501
VR502
VR451
VR452
TH501
TH502
TH451
TH452
EXCEPT (EG)
J10
J14
J15
J21



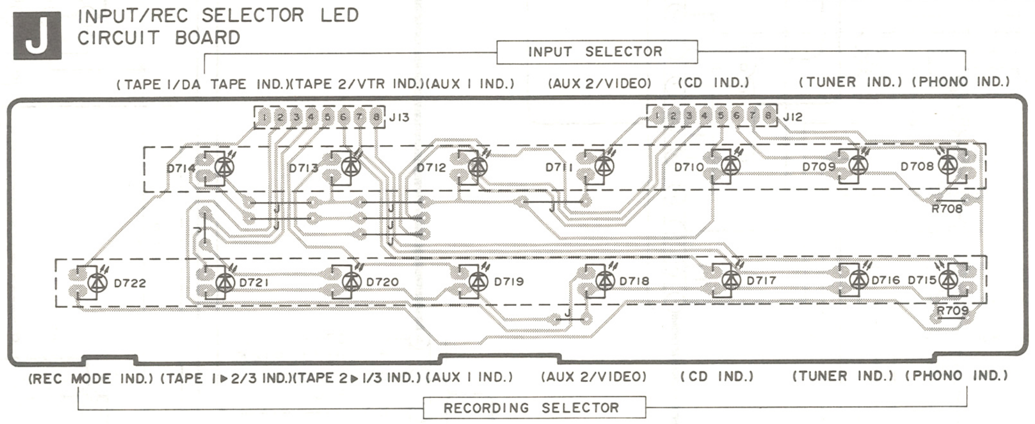
L
HEADPHONE JACK/SPEAKER SELECTOR SWITCH CIRCUIT BOARD
J15
J16
R537
R538
on
off
(S502)
(S501)
(REMOTE)
(MAIN)
SPEAKERS
PHONES



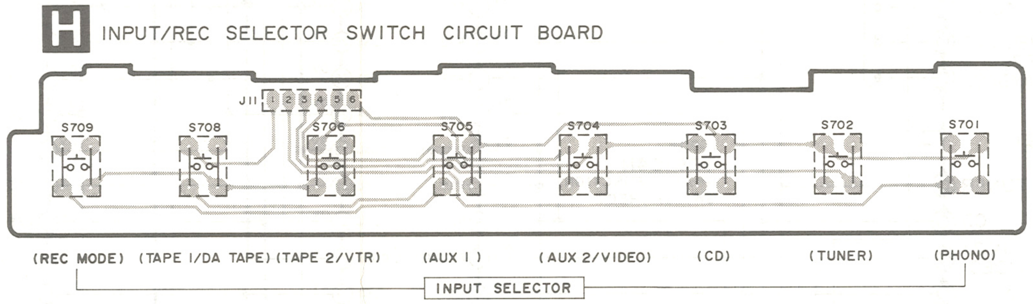
M
FUSE/POWER SWITCH CIRCUIT BOARD
F1 T3.15A
C1
(S1)
POWER



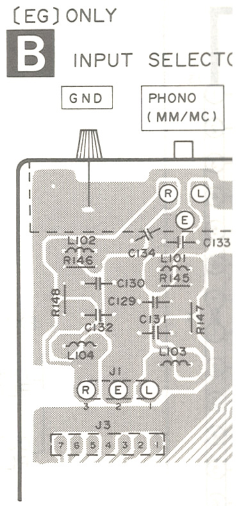
G
J7
R228
R227
(VR201)
VOLUME



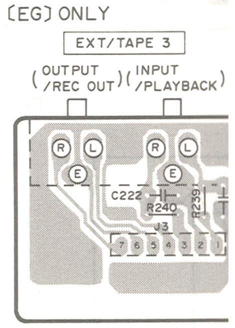
J
INPUT/REC SELECTOR LED CIRCUIT BOARD
INPUT SELECTOR
(TAPE 1/DA TAPE IND.)
(TAPE 2/VTR IND.)
(AUX 1 IND.)
(AUX 2/VIDEO)
(CD IND.)
(TUNER IND.)
(PHONO IND.)
J13
J12
D714
D713
D712
D711
D710
D709
D708
R708
D722
D721
D720
D719
D718
D717
D716
D715
R709
(REC MODE IND.)
(TAPE 1▶2/3 IND.)
(TAPE 2▶1/3 IND.)
(AUX 1 IND.)
(AUX 2/VIDEO)
(CD IND.)
(TUNER IND.)
(PHONO IND.)
RECORDING SELECTOR



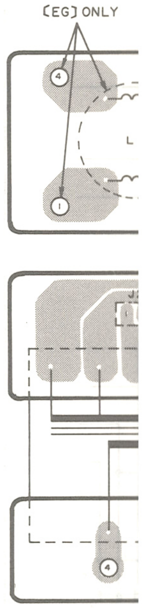
H
INPUT/REC SELECTOR SWITCH CIRCUIT BOARD
J11
S709
S708
S706
S705
S704
S703
S702
S701
(REC MODE)
(TAPE 1/DA TAPE)
(TAPE 2/VTR)
(AUX 1)
(AUX 2/VIDEO)
(CD)
(TUNER)
(PHONO)
INPUT SELECTOR



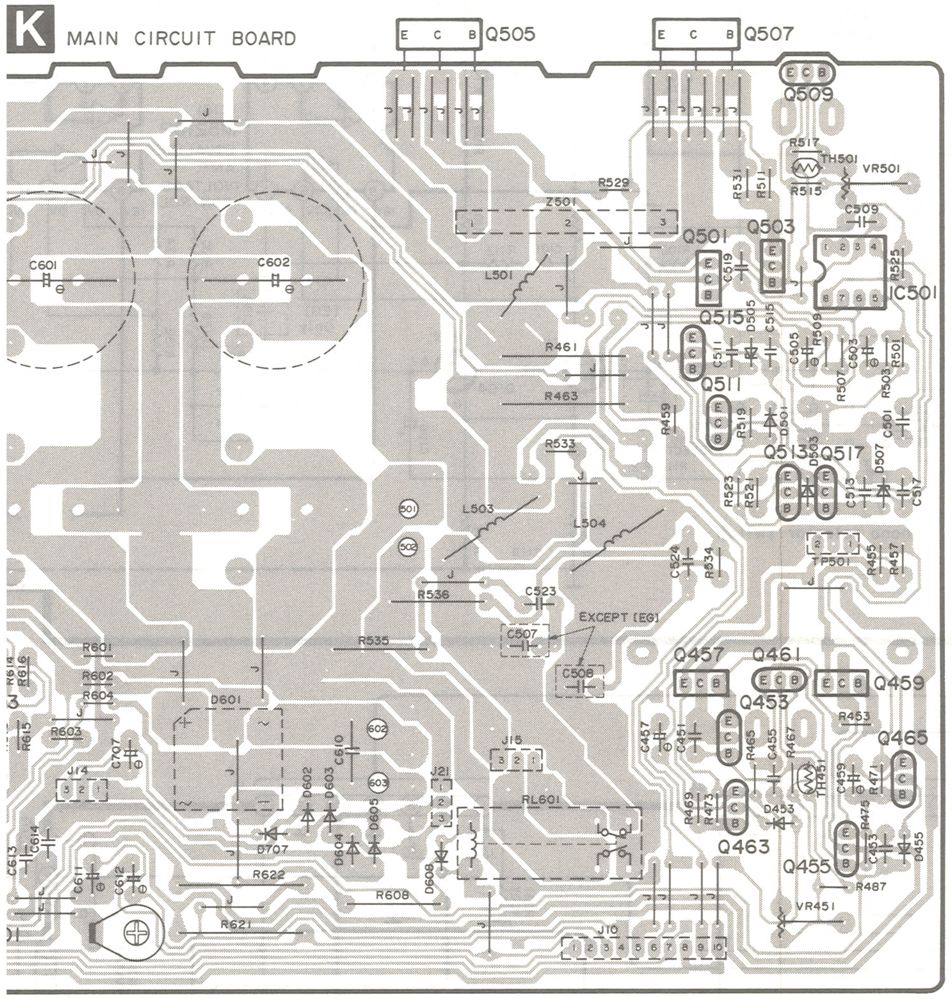
[EG] ONLY
B
INPUT SELECT
GND
PHONO (MM/MC)
J1
J3



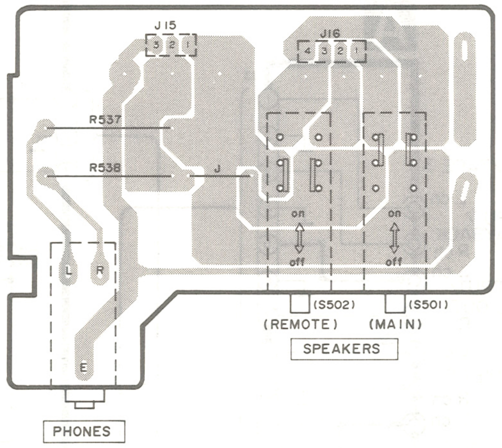
[EG] ONLY
EXT/TAPE 3
(OUTPUT /REC OUT)
(INPUT /PLAYBACK)
C222
R240
J3



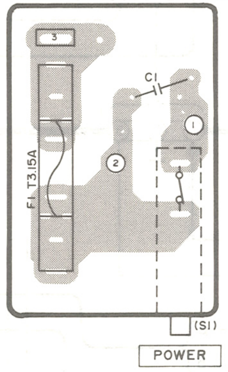
K MAIN CIRCUIT BOARD


Q505
Q507
Q509
Q501
Q503
IC501
Q515
Q511
Q513
Q517
Q457
Q461
Q459
Q453
Q465
Q463
Q455
C601
C602
L501
L503
L504
Z501
R461
R463
RL601
D601
J10
J14
J15
J21
VR451
TH501
VR501
EXCEPT [EG]

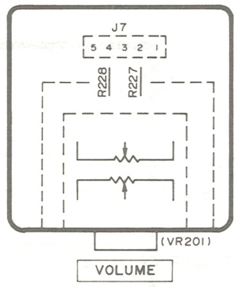
L HEADPHONE JACK/SPEAKER SELECTOR SWITCH CIRCUIT BOARD


J15
J16
R537
R538
on
off
(S502)
(S501)
(REMOTE)
(MAIN)
SPEAKERS
PHONES

M FUSE/POWER SWITCH CIRCUIT BOARD

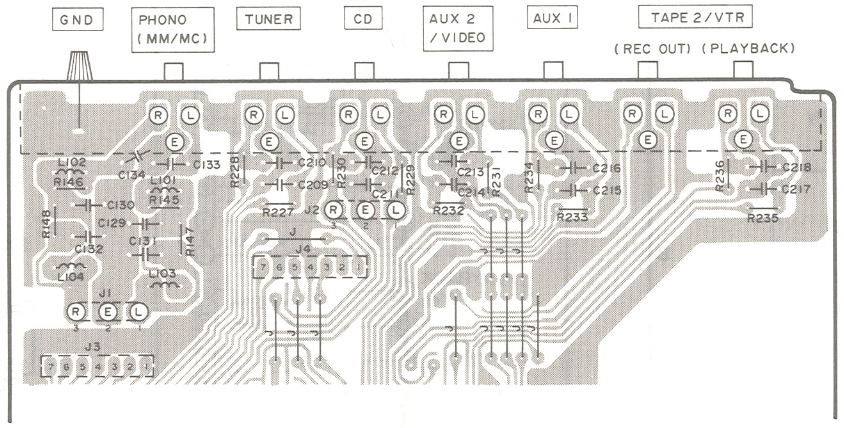

F1 T3.15A
C1
(S1)
POWER

G


J7
R228
R227
(VR201)
VOLUME

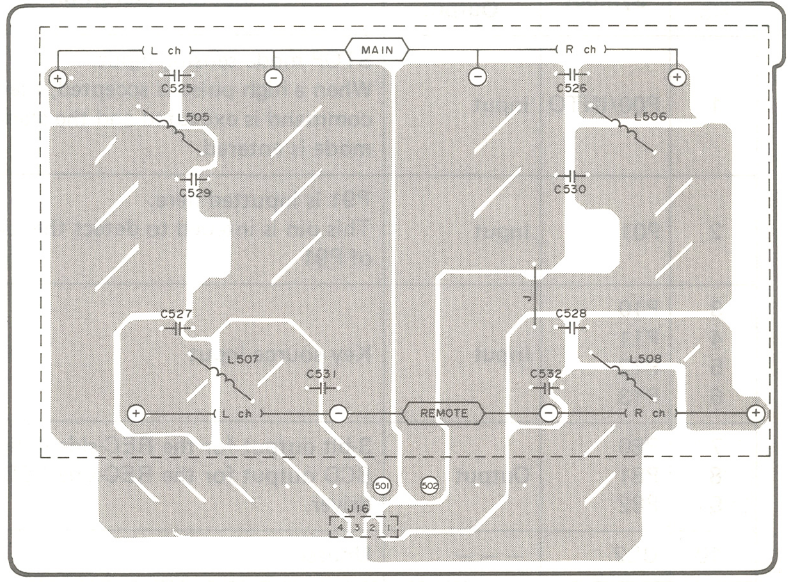
[EG] ONLY

B INPUT SELECTOR CIRCUIT BOARD


GND
PHONO (MM/MC)
TUNER
CD
AUX 2 / VIDEO
AUX 1
TAPE 2/VTR
(REC OUT)
(PLAYBACK)
J1
J2
J3
J4

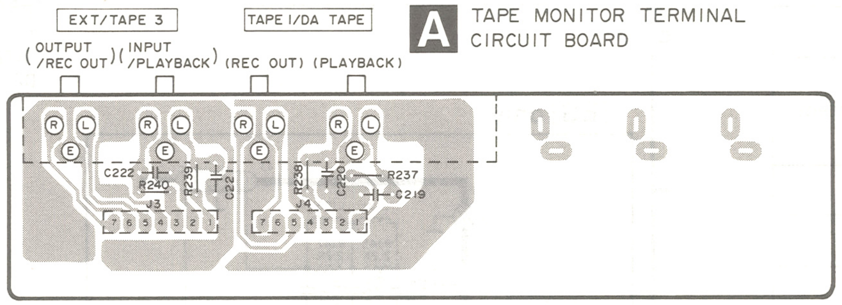
[EG] ONLY

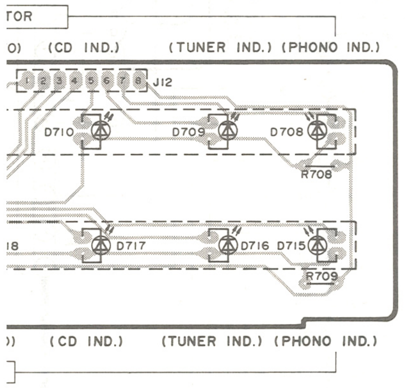
N SPEAKER TERMINAL CIRCUIT BOARD


L ch
MAIN
R ch
C525
C526
L505
L506
C529
C530
C527
C528
L507
L508
C531
C532
REMOTE
J16

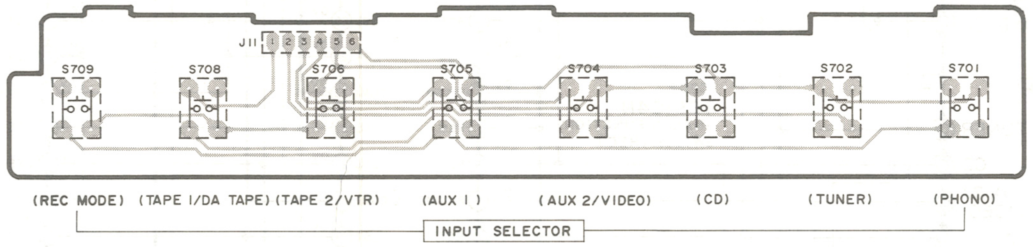
[EG] ONLY

A TAPE MONITOR TERMINAL CIRCUIT BOARD

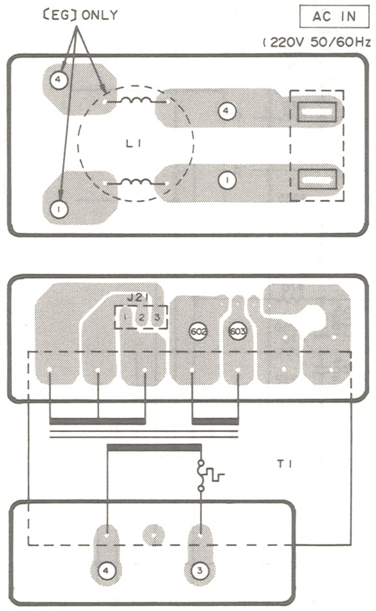

EXT/TAPE 3
OUTPUT /REC OUT
INPUT /PLAYBACK
TAPE 1/DA TAPE
(REC OUT)
(PLAYBACK)
J3
J4


TOR
(CD IND.)
(TUNER IND.)
(PHONO IND.)
J12
D710
D709
D708
R708
D717
D716
D715
R709

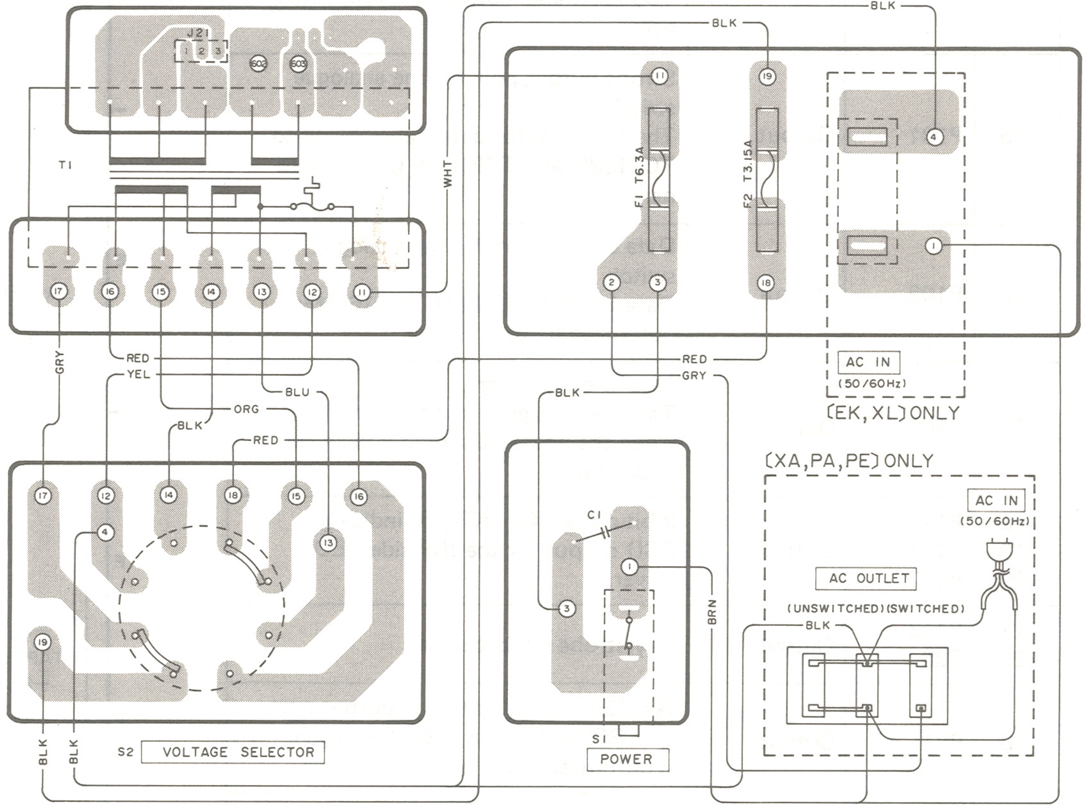
H INPUT/REC SELECTOR SWITCH CIRCUIT BOARD


J11
S709
S708
S706
S705
S704
S703
S702
S701
(REC MODE)
(TAPE 1/DA TAPE)
(TAPE 2/VTR)
(AUX 1)
(AUX 2/VIDEO)
(CD)
(TUNER)
(PHONO)
INPUT SELECTOR

[EG] ONLY


AC IN
(220V 50/60Hz)
L1
J21
T1

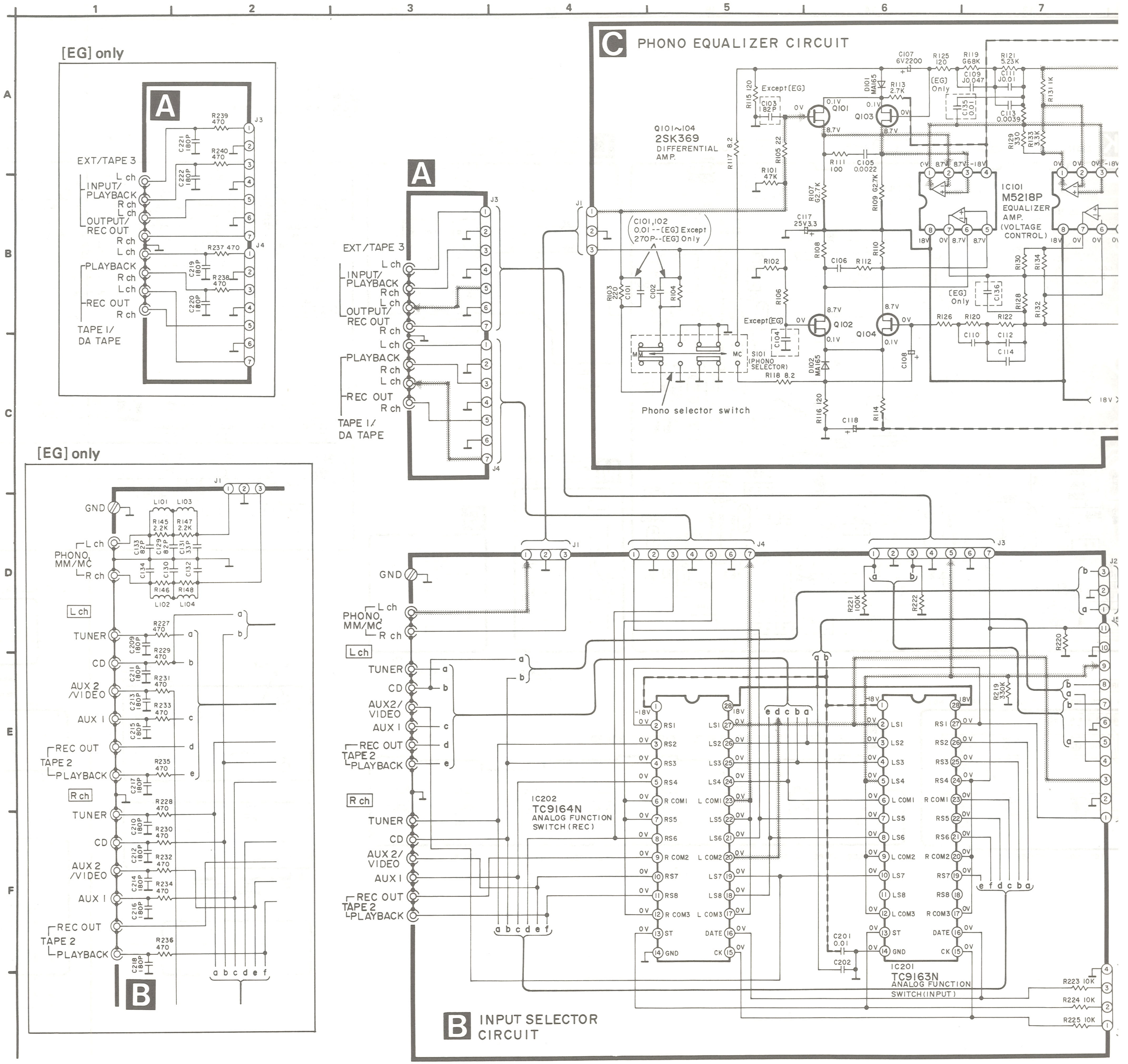
[EK, XL, XA, PA, PE] ONLY

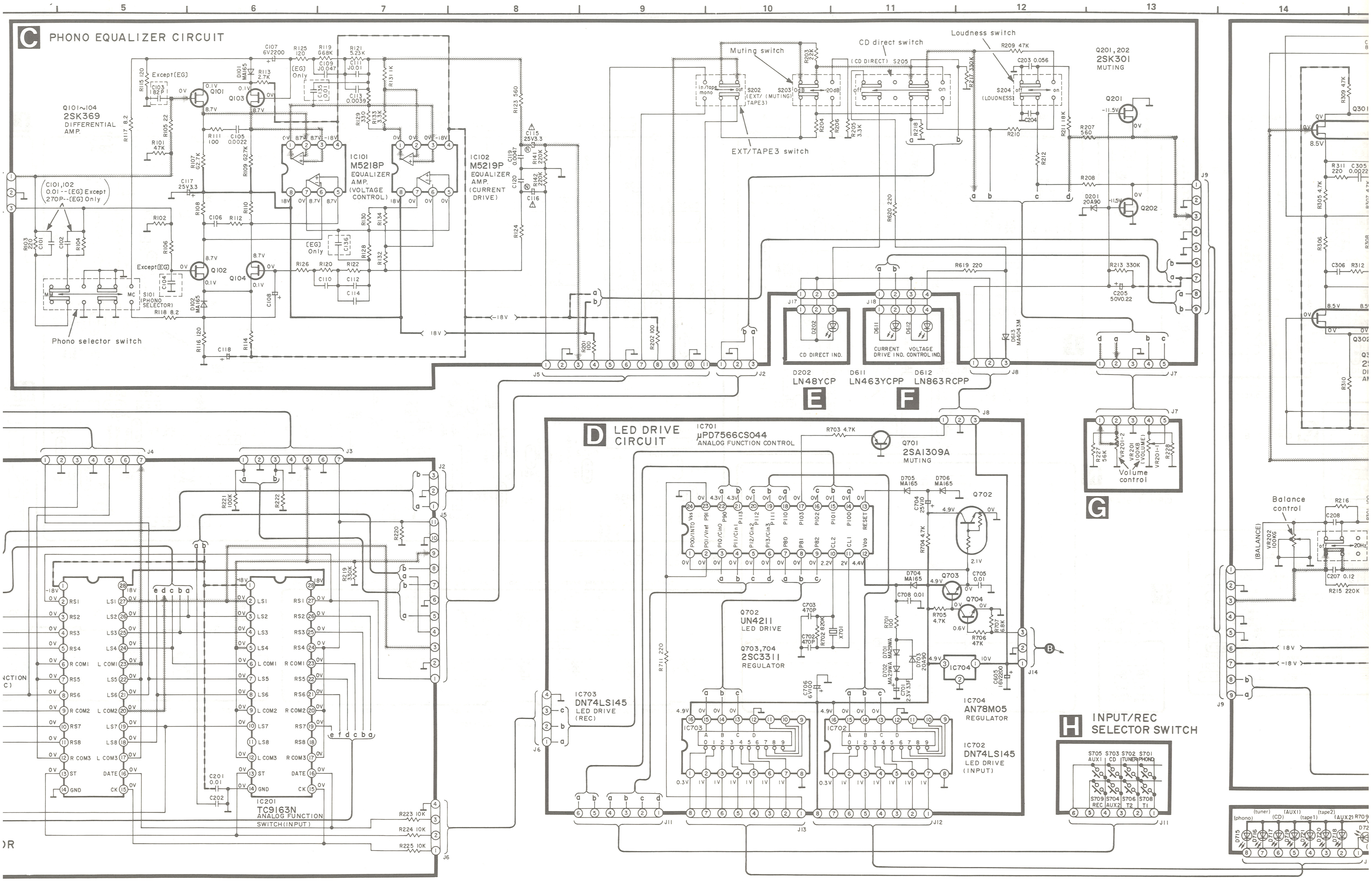

J21
T1
BLK
WHT
GRY
RED
YEL
BLU
ORG
BRN
F1 T6.3A
F2 T3.15A
AC IN
(50/60Hz)
[EK, XL] ONLY
[XA, PA, PE] ONLY
AC OUTLET
(UNSWITCHED)(SWITCHED)
C1
S1
POWER
S2
VOLTAGE SELECTOR

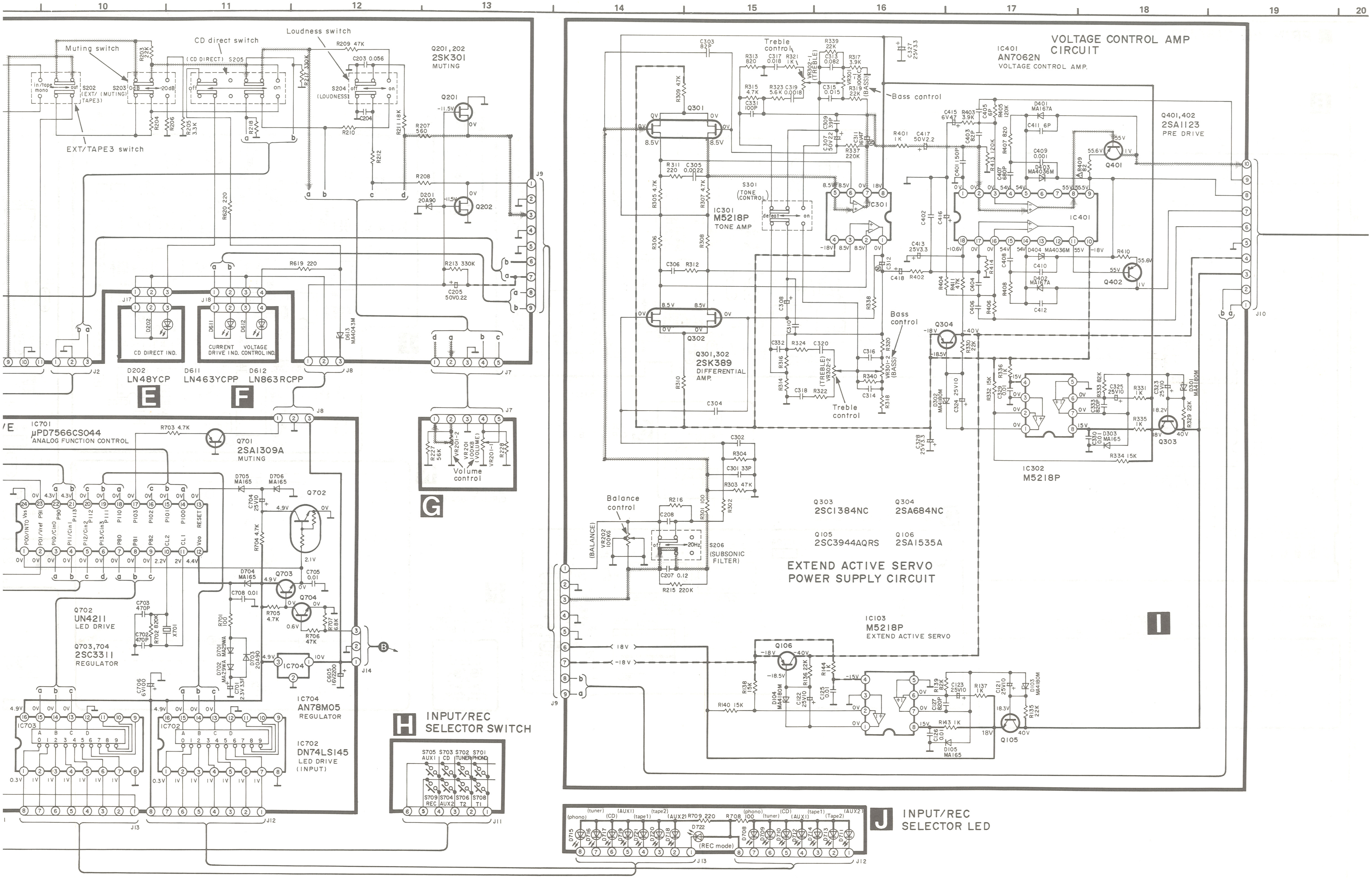
FUNCTION OF IC TERMINALS

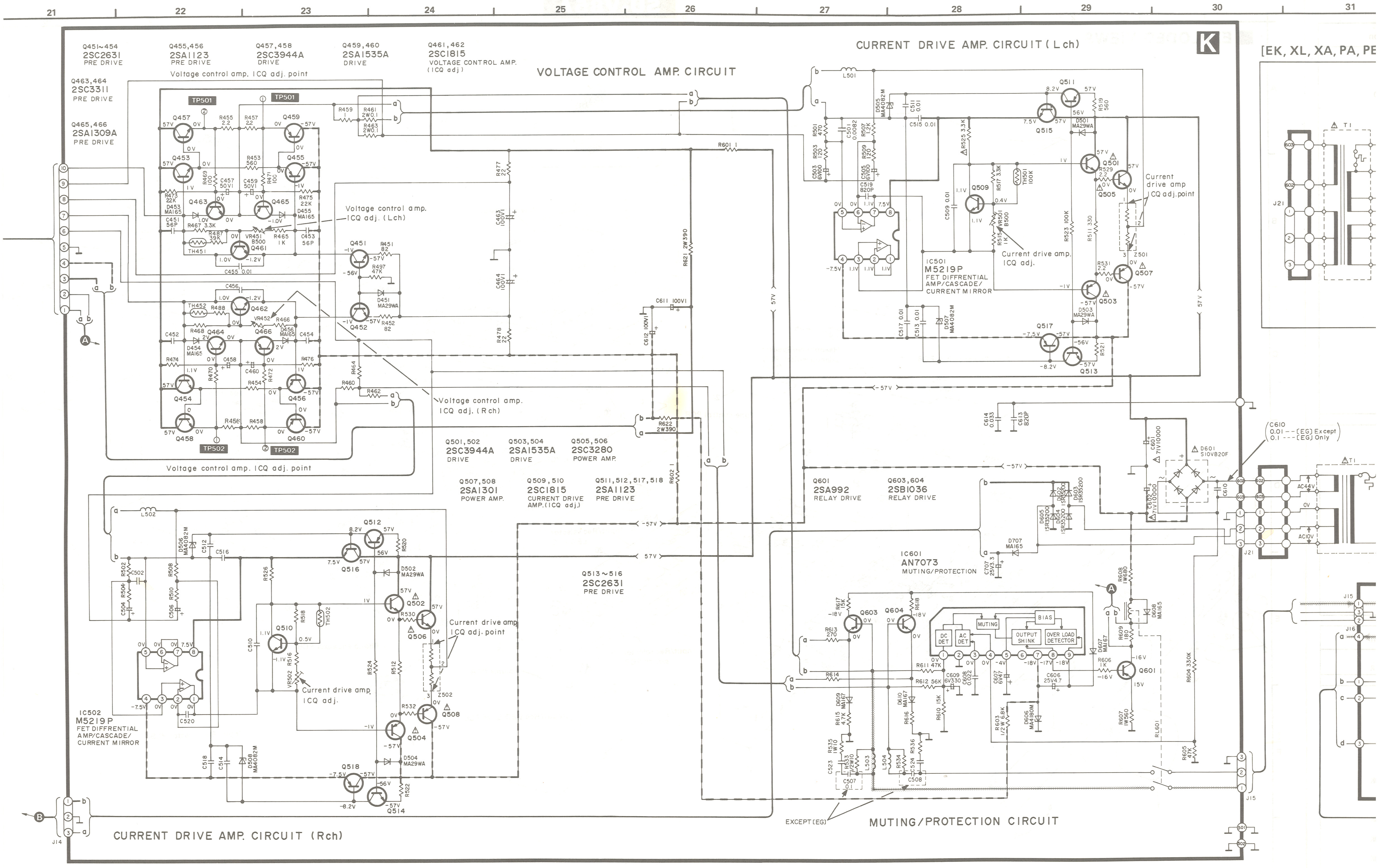
- IC701 (UPD7566CS044) for Controlling the Analogue Switch Operations

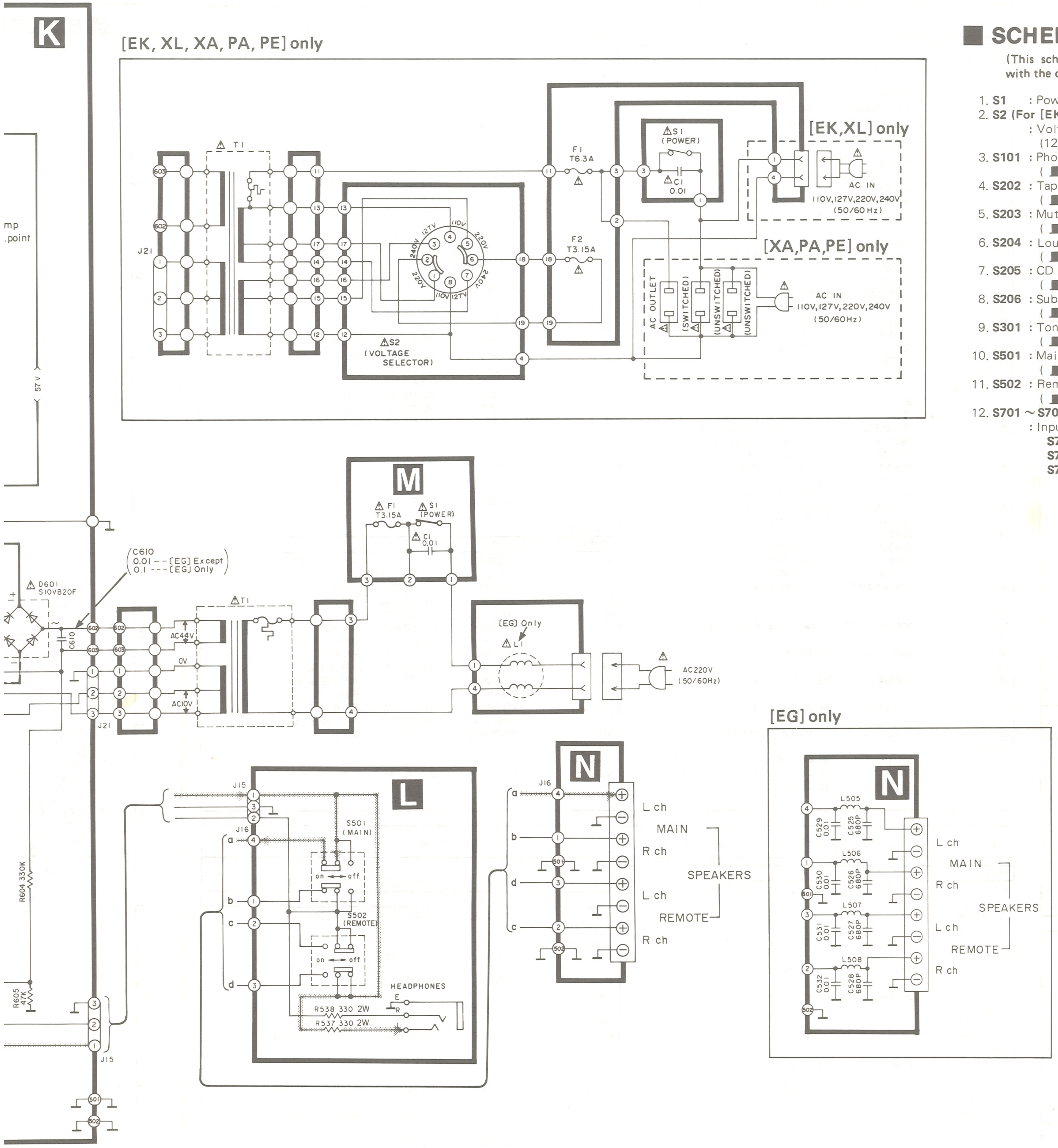
Pin No.	Symbol	Input/ Output	Function Description
1	P00/INTO	Input	STOP mode sensing input. When a high pulse is accepted, the STOP command is executed and the stand-by mode is entered.
2	P01	Input	P91 is inputted here. This pin is inteded to detect the level of P91
3 4 5 6	P10 P11 P12 P13	Input	Key source input
7 8 9	P80 P81 P82	Output	3-bit output for the REC-side indicator. BCD output for the REC-side LED driver.
10	CL2	– – –	Unused
11	CL1	– – –	External clock input (f=400kHz) This serves as the source for the system clock.
12	VDD	– – –	Power supply terminal (+5V)
13	RESET	– – –	CPU reset signal input terminal.
14	P100	Output	Clock output port for the analogue switch. The CK signal for data transmission to TC9163N and TC9164N is outputted here.
15	P101	Output	Strobe output port for the analogue switch. The ST signal for data transmission to TC9163N and TC9164N is outputted here.
16	P102	Output	Data output port for the analogue switch. Data for TC9163N and TC9164N is outputted here.
17	P103	Output	Muting output port. The muting signal is outputted here when the analogue switch is changed in position.
18 19 20	P110 P111 P112	Output	3-bit output for INP-side indicator. BCD output for the INP-side LED driver.
21 22	P113 P90	Output	Key strobe signal output.
23	P91	Output	RECOUT state indication output port. The RECOUT state indication signal is outputted here.
24	Vss	– – –	Ground terminal.


[EG] only
A
EXT/TAPE 3
INPUT/PLAYBACK
OUTPUT/REC OUT
PLAYBACK
REC OUT
TAPE I/DA TAPE
J3
J4
[EG] only
B
GND
PHONO MM/MC
L ch
R ch
TUNER
CD
AUX 2/VIDEO
AUX 1
REC OUT
TAPE 2
PLAYBACK
C
PHONO EQUALIZER CIRCUIT
Q101~104
2SK369
DIFFERENTIAL AMP.
IC101
M5218P
EQUALIZER AMP.
(VOLTAGE CONTROL)
C101,102
0.01 -- [EG] Except
270P -- [EG] Only
Phono selector switch
S101 (PHONO SELECTOR)
Except [EG]
IC202
TC9164N
ANALOG FUNCTION SWITCH (REC)
IC201
TC9163N
ANALOG FUNCTION SWITCH (INPUT)
B
INPUT SELECTOR CIRCUIT
1
2
3
4
5
6
7
A
B
C
D
E
F


C PHONO EQUALIZER CIRCUIT
Q101~104
2SK369
DIFFERENTIAL AMP.
IC101
M5218P
EQUALIZER AMP.
(VOLTAGE CONTROL)
IC102
M5219P
EQUALIZER AMP.
(CURRENT DRIVE)
(C101,102
0.01--[EG] Except
270P--[EG] Only)
Except[EG]
[EG] Only
S101 (PHONO SELECTOR)
Phono selector switch
MM
MC
Muting switch
CD direct switch
Loudness switch
S202 (EXT/TAPE3)
S203 (MUTING)
S205 (CD DIRECT)
S204 (LOUDNESS)
EXT/TAPE3 switch
Q201,202
2SK301
MUTING
CD DIRECT IND.
CURRENT DRIVE IND.
VOLTAGE CONTROL IND.
D202 LN48YCP
D611 LN463YCPP
D612 LN863RCPP
E
F
G
Volume control
VR201 (100KB) (VOLUME)
D LED DRIVE CIRCUIT
IC701
μPD7566CS044
ANALOG FUNCTION CONTROL
Q701
2SA1309A
MUTING
Q702
UN4211
LED DRIVE
Q703,704
2SC3311
REGULATOR
IC703
DN74LS145
LED DRIVE (REC)
IC704
AN78M05
REGULATOR
IC702
DN74LS145
LED DRIVE (INPUT)
IC201
TC9163N
ANALOG FUNCTION SWITCH(INPUT)
H INPUT/REC SELECTOR SWITCH
S705 AUX1
S703 CD
S702 TUNER
S701 PHONO
S709 REC
S704 AUX2
S706 T2
S708 T1
Balance control
VR202 100KG (BALANCE)
(phono) (tuner) (CD) (AUX1) (tape1) (tape2) (AUX2)
J2 J3 J4 J5 J6 J7 J8 J9 J11 J12 J13 J14 J17 J18
18V
-18V


10
11
12
13
14
15
16
17
18
19
20
Muting switch
CD direct switch
Loudness switch
S202 (EXT/TAPE3)
S203 (EXT/MUTING)
S205 (CD DIRECT)
S204 (LOUDNESS)
EXT/TAPE3 switch
Q201,202
2SK301
MUTING
D202
LN48YCP
D611
LN463YCPP
D612
LN863RCPP
CD DIRECT IND.
CURRENT DRIVE IND.
VOLTAGE CONTROL IND.
E
F
G
Volume control
IC701
μPD7566CS044
ANALOG FUNCTION CONTROL
Q701
2SA1309A
MUTING
Q702
UN4211
LED DRIVE
Q703,704
2SC3311
REGULATOR
IC704
AN78M05
REGULATOR
IC702
DN74LS145
LED DRIVE
(INPUT)
IC703
H
INPUT/REC
SELECTOR SWITCH
S705 AUX1
S703 CD
S702 TUNER
S701 PHONO
S709 REC
S704 AUX2
S706 T2
S708 T1
J2
J7
J8
J9
J10
J11
J12
J13
J14
J17
J18
VOLTAGE CONTROL AMP
CIRCUIT
IC401
AN7062N
VOLTAGE CONTROL AMP.
Q401,402
2SA1123
PRE DRIVE
Treble control
Bass control
Q301
Q302
Q301,302
2SK389
DIFFERENTIAL AMP.
IC301
M5218P
TONE AMP
S301 (TONE CONTROL)
defeat
on
Q304
Q303
IC302
M5218P
Q303
2SC1384NC
Q304
2SA684NC
Q105
2SC3944AQRS
Q106
2SA1535A
EXTEND ACTIVE SERVO
POWER SUPPLY CIRCUIT
Balance control
VR202 (BALANCE)
S206 (SUBSONIC FILTER)
IC103
M5218P
EXTEND ACTIVE SERVO
Q106
Q105
I
J
INPUT/REC
SELECTOR LED
(REC mode)
(phono)
(tuner)
(CD)
(AUX1)
(tape1)
(tape2)
(AUX2)


K
[EK, XL, XA, PA, PE
VOLTAGE CONTROL AMP. CIRCUIT
CURRENT DRIVE AMP. CIRCUIT (L ch)
CURRENT DRIVE AMP. CIRCUIT (Rch)
MUTING/PROTECTION CIRCUIT
Q451~454 2SC2631 PRE DRIVE
Q455,456 2SA1123 PRE DRIVE
Q457,458 2SC3944A DRIVE
Q459,460 2SA1535A DRIVE
Q461,462 2SC1815 VOLTAGE CONTROL AMP. (ICQ adj)
Q463,464 2SC3311 PRE DRIVE
Q465,466 2SA1309A PRE DRIVE
Voltage control amp. ICQ adj. point
Voltage control amp. ICQ adj. (Lch)
Voltage control amp. ICQ adj. (Rch)
TP501
TP502
Q501,502 2SC3944A DRIVE
Q503,504 2SA1535A DRIVE
Q505,506 2SC3280 POWER AMP.
Q507,508 2SA1301 POWER AMP.
Q509,510 2SC1815 CURRENT DRIVE AMP.(ICQ adj.)
Q511,512,517,518 2SA1123 PRE DRIVE
Q513~516 2SC2631 PRE DRIVE
Q601 2SA992 RELAY DRIVE
Q603,604 2SB1036 RELAY DRIVE
IC501 M5219P FET DIFFRENTIAL AMP/CASCADE/ CURRENT MIRROR
IC502 M5219P FET DIFFRENTIAL AMP/CASCADE/ CURRENT MIRROR
IC601 AN7073 MUTING/PROTECTION
Current drive amp. ICQ adj.
Current drive amp ICQ adj. point
DC DET
AC DET
MUTING
BIAS
OUTPUT SHINK
OVER LOAD DETECTOR
(C610 0.01 --(EG) Except 0.1 ---(EG) Only
D601 S10VB20F
C601 71V10000
C602 71V10000
AC44V
0V
AC10V
EXCEPT(EG)
J14
J15
J16
J21
T1
RL601
57V
-57V
A
B

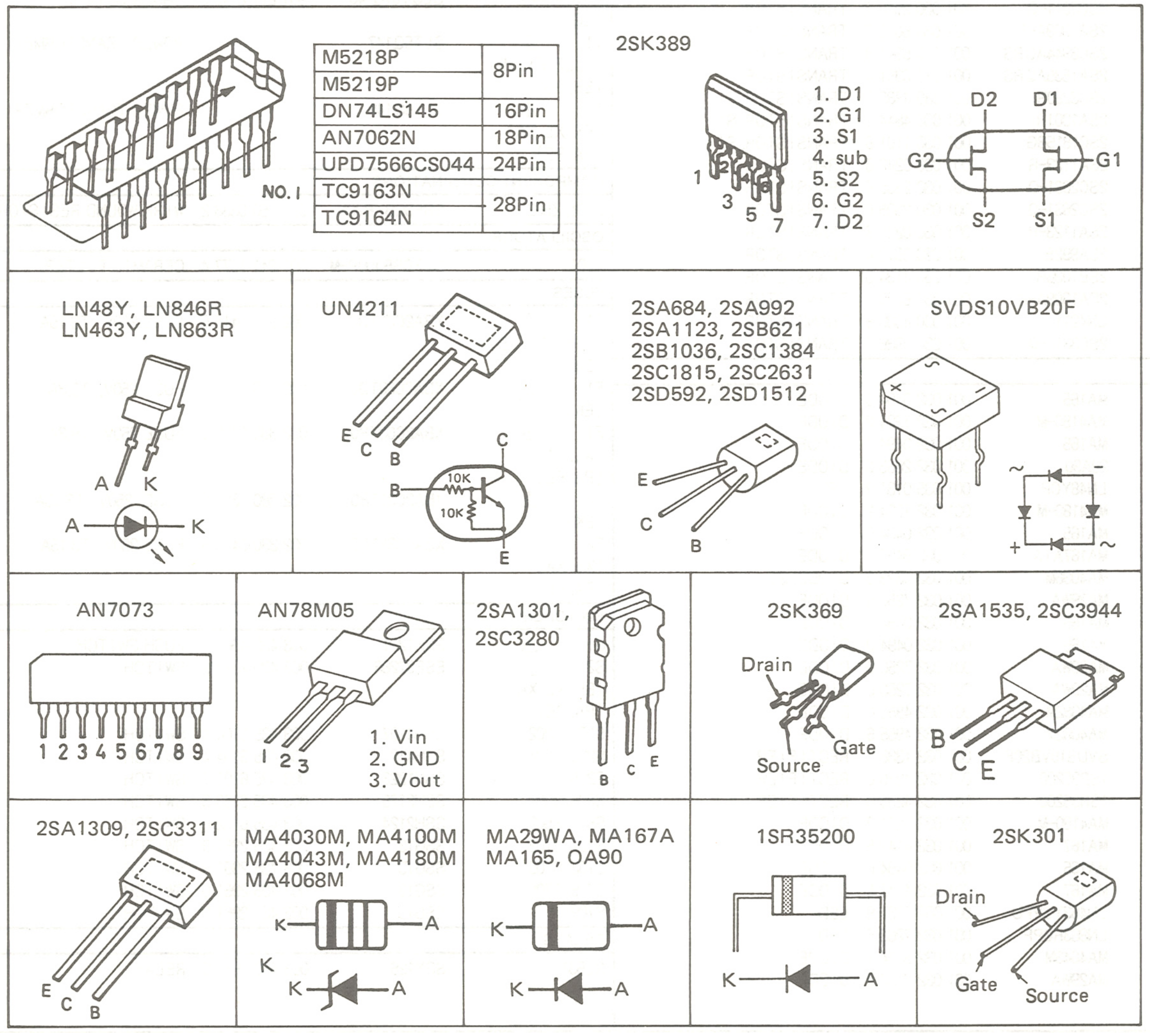

K
[EK, XL, XA, PA, PE] only
⚠T1
⚠S1 (POWER)
⚠C1 0.01
F1 T6.3A
F2 T3.15A
⚠S2 (VOLTAGE SELECTOR)
110V 127V 220V 240V
[EK,XL] only
AC IN 110V,127V,220V,240V (50/60Hz)
[XA,PA,PE] only
AC OUTLET (SWITCHED) (UNSWITCHED) (UNSWITCHED)
AC IN 110V,127V,220V,240V (50/60Hz)
J21
mp .point
57V
M
⚠F1 T3.15A
⚠S1 (POWER)
⚠C1 0.01
C610 0.01 --- [EG] Except 0.1 --- [EG] Only
⚠D601 S10VB20F
⚠T1
AC44V
0V
AC10V
[EG] Only ⚠L1
AC220V (50/60Hz)
J15
J16
L
S501 (MAIN)
S502 (REMOTE)
on off
HEADPHONES
R538 330 2W
R537 330 2W
R604 330K
R605 47K
N
L ch MAIN R ch
L ch REMOTE R ch
SPEAKERS
[EG] only
L505 L506 L507 L508
C529 0.01 C525 680P
C530 0.01 C526 680P
C531 0.01 C527 680P
C532 0.01 C528 680P

■ SCHEMATIC DIAGRAM

(This schematic diagram may be modified at any time with the development of new technology.)

1. **S1** : Power switch in **"on"** position.
2. **S2 (For [EK],[XA],[XL],[PA],[PE] area)**
   : Voltage selector switch in **"220V"** position.
   (127V ↔ 110V ↔ 220V ↔ 240V)
3. **S101** : Phono selection switch in **"MM"** position.
   (▇ MM, ▁ MC)
4. **S202** : Tape 3 mon/ext switch in **"source/out"** position.
   (▇ source/out, ▁ tape/in)
5. **S203** : Muting switch in **"0dB"** position.
   (▇ 0dB, ▁ −20dB)
6. **S204** : Loudness switch in **"off"** position.
   (▇ off, ▁ on)
7. **S205** : CD direct switch in **"off"** position.
   (▇ off, ▁ on)
8. **S206** : Subsonic filter switch in **"off"** position.
   (▇ off, ▁ 20Hz)
9. **S301** : Tone control switch in **"defeat"** position.
   (▇ defeat, ▁ on)
10. **S501** : Main speaker switch in **"off"** position.
    (▇ off, ▁ on)
11. **S502** : Remote speaker switch in **"off"** position.
    (▇ off, ▁ on)
12. **S701 ~ S706, S708, S709**
    : Input selector switch in **"phono"** position.
    S701 : phono, **S702** : tuner, **S703** : CD
    S704 : aux 2, **S705** : aux 1, **S706** : tape 2
    S708 : tape 1, **S709** : rec mode
13. Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.
14. ⇝ Phono signal (Lch)
15. ─< >─ Positive voltage lines.
    ─·─< >─·─ Negative voltage lines.
16. Important safety notice:
    Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

- **Terminal guide of IC, transistor and diode**


M5218P
M5219P
8Pin
DN74LS145 16Pin
AN7062N 18Pin
UPD7566CS044 24Pin
TC9163N
TC9164N
28Pin
NO. 1
2SK389
1. D1
2. G1
3. S1
4. sub
5. S2
6. G2
7. D2
D2 D1 G2 G1 S2 S1
LN48Y, LN846R
LN463Y, LN863R
A K
UN4221
E C B
10K
2SA684, 2SA992
2SA1123, 2SB621
2SB1036, 2SC1384
2SC1815, 2SC2631
2SD592, 2SD1512
E C B
SVDS10VB20F
~ − + ~
AN7073
1 2 3 4 5 6 7 8 9
AN78M05
1. Vin
2. GND
3. Vout
2SA1301,
2SC3280
B C E
2SK369
Drain Gate Source
2SA1535, 2SC3944
B C E
2SA1309, 2SC3311
E C B
MA4030M, MA4100M
MA4043M, MA4180M
MA4068M
K A
MA29WA, MA167A
MA165, OA90
K A
1SR35200
K A
2SK301
Drain Gate Source

REPLACEMENT PARTS LIST (Electric, cabinet & chassis parts)

Notes:

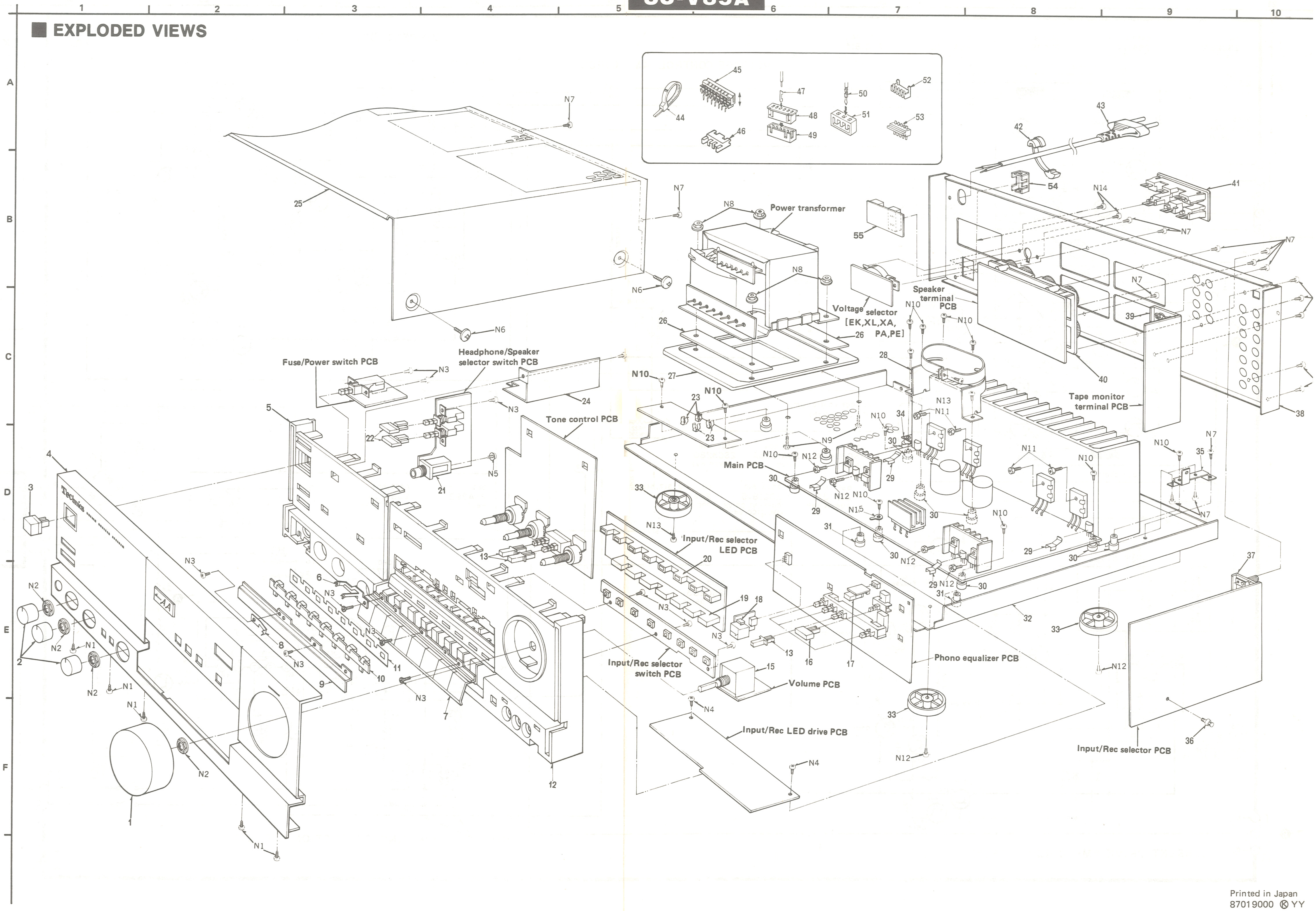
1. Part numbers are indicated on most mechanical parts. Please use this part number for parts order.
2. Important safety notice: Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
3. Bracketed indications in Ref. No. columns specify the area. Parts without these indications can be used for all areas.
4. The parenthesized numbers in the column of description stand for the quantity per set.

Ref. No.	Part No.	Part Code	Description
INTEGRATED CIRCUITS			
IC101	M5218P	001 060 7025 9	I.C.
IC102	M5219P	001 060 9732 1	I.C.
IC103	M5218P	001 060 7025 9	I.C.
IC201	TC9163N	001 061 0203 2	I.C.
IC202	TC9164N	001 061 0204 1	I.C.
IC301, IC302	M5218P	001 060 7025 9	I.C.
IC401	AN7062N	001 060 8240 0	I.C.
IC501, IC502	M5219P	001 060 9732 1	I.C.
IC601	AN7073	001 060 8241 9	I.C.
IC701	UPD7566CS044	001 061 3891 6	I.C.
IC702, IC703	DN74LS145	001 060 4587 2	I.C.
IC704	AN78M05	001 060 4137 4	I.C.
TRANSISTORS			
Q101, Q102	2SK369-GR	001 030 2786 3	TRANSISTOR
Q103, Q104	2SK369-GR	001 030 2786 3	TRANSISTOR
Q105 ⚠	2SC3944AQRS	001 030 5941 8	TRANSISTOR
Q106 ⚠	2SA1535AQRS	001 030 6991 4	TRANSISTOR
Q201, Q202	2SK301	001 030 2428 2	TRANSISTOR
Q301, Q302	2SK389BG	001 030 5268 8	TRANSISTOR
Q303	2SC1384A-R	001 030 0937 4	TRANSISTOR
Q304	2SA684-RNC	001 030 0352 3	TRANSISTOR
Q401, Q402	2SA1123-R	001 030 0242 8	TRANSISTOR
Q451, Q452	2SC2631-Q	001 030 2505 6	TRANSISTOR
Q453, Q454	2SC2631-Q	001 030 2505 6	TRANSISTOR
Q455, Q456	2SA1123-R	001 030 0242 8	TRANSISTOR
Q457, Q458 ⚠	2SC3944AQRS	001 030 5941 8	TRANSISTOR
Q459, Q460 ⚠	2SA1535AQRS	001 030 6991 4	TRANSISTOR
Q461, Q462	2SC1815BG	001 030 1101 6	TRANSISTOR, SI
Q463, Q464	2SC3311-Q	001 030 2936 7	TRANSISTOR
Q465, Q466	2SA1309A-R	001 030 6079 7	TRANSISTOR
Q501, Q502 ⚠	2SC3944AQRS	001 030 5941 8	TRANSISTOR
Q503, Q504 ⚠	2SA1535AQRS	001 030 6991 4	TRANSISTOR
Q505, Q506 ⚠	2SC3280R	001 030 4985 0	TRANSISTOR, SI
Q507, Q508 ⚠	2SA1301R	001 030 4844 2	TRANSISTOR, SI
Q509, Q510	2SC1815BG	001 030 1101 6	TRANSISTOR, SI
Q511, Q512	2SA1123-R	001 030 0242 8	TRANSISTOR
Q513, Q514	2SC2631-Q	001 030 2505 6	TRANSISTOR
Q515, Q516	2SC2631-Q	001 030 2505 6	TRANSISTOR
Q517, Q518	2SA1123-R	001 030 0242 8	TRANSISTOR
Q601	2SA992E	001 030 0513 4	TRANSISTOR
Q603, Q604	2SB1036R	001 030 4134 5	TRANSISTOR
Q701	2SA1309A-R	001 030 6079 7	TRANSISTOR
Q702	UN4211	001 030 4033 9	TRANSISTOR
Q703, Q704	2SC3311-Q	001 030 2936 7	TRANSISTOR
DIODES			
D101, D102	MA165	001 032 0494 0	DIODE
D103, D104	MA4180-M	001 032 7224 2	DIODE
D105	MA165	001 032 0494 0	DIODE
D201	20A90	001 032 2865 5	DIODE
D202	LN48YCP	001 035 0131 9	LED
D301, D302	MA4180-M	001 032 7224 2	DIODE
D303	MA165	001 032 0494 0	DIODE
D401, D402	MA167ATA	001 032 9497 1	DIODE
D403, D404	MA4036M	001 032 5823 3	DIODE, SI
D451	MA29WA	001 032 7250 0	DIODE
D453, D454	MA165	001 032 0494 0	DIODE
D455, D456	MA165	001 032 0494 0	DIODE
D501, D502	MA29WA	001 032 7250 0	DIODE
D503, D504	MA29WA	001 032 7250 0	DIODE
D505, D506	MA4082M	001 032 4955 6	DIODE
D507, D508	MA4082M	001 032 4955 6	DIODE
D601 ⚠	SVDS10VB20F	001 032 1338 7	RECTIFIER
D602, D603	1SR35200	001 032 4236 0	RECTIFIER
D604, D605	1SR35200	001 032 4236 0	RECTIFIER
D606	MA4180-M	001 032 7224 2	DIODE
D607	MA167	001 032 4142 5	DIODE
D608	MA165	001 032 0494 0	DIODE
D609, D610	MA167	001 032 4142 5	DIODE
D611	LN463YCPPU	001 032 7887 9	LED
D612	LN863RCPP	001 032 7263 5	LED
D613	MA4043M	001 032 5574 1	DIODE
D701, D702	MA29WA	001 032 7250 0	DIODE
D703	20A90	001 032 2865 5	DIODE
D704, D705	MA165	001 032 0494 0	DIODE
D706, D707	MA165	001 032 0494 0	DIODE
D708, D709	LN463YCPPU	001 032 7887 9	LED
D710, D711	LN463YCPPU	001 032 7887 9	LED
D712, D713	LN463YCPPU	001 032 7887 9	LED
D714	LN463YCPPU	001 032 7887 9	LED
D715, D716	LN846RP	001 032 3839 3	LED
D717, D718	LN846RP	001 032 3839 3	LED
D719, D720	LN846RP	001 032 3839 3	LED
D721, D722	LN846RP	001 032 3839 3	LED
VARIABLE RESISTORS			
VR201	EWF3KA024B15	001 174 8891 8	VARIABLE RESISTOR
VR202	EVH0YA015G15	001 174 8584 6	VARIABLE RESISTOR
VR301, VR302	EWCRYA023C15	001 174 8586 4	VARIABLE RESISTOR
VR451, VR452	EVNK6AA00B52	001 180 0496 1	VARIABLE RESISTER
VR501, VR502	EVNK6AA00B52	001 180 0496 1	VARIABLE RESISTER
THERMISTORS AND VARISTORS			
TH451, TH452	ERTD2ZHK104S	001 191 0182 5	TERMISTOR
TH501, TH502	ERTD2ZHK104S	001 191 0182 5	TERMISTOR
COILS AND TRANSFORMERS			
L1 〔EG〕	SLQZ650MH49	001 210 7126 1	CHOKE COIL
L101, L104	SLQW471-1P3	001 211 2868 5	CHOKE COIL
L501, L502	SLQY07G-40	001 211 2149 9	CHOCK COIL
L503, L504	SLQY18G-10	001 211 2185 5	CHOCK COIL
L505, L506 〔EG〕	SLQY07G-40	001 211 2149 9	CHOCK COIL
L507, L508 〔EG〕	SLQY07G-40	001 211 2149 9	CHOCK COIL
T1 ⚠ 〔E, EF, EI, EB〕 〔EH, EG〕	SLT5Q147		POWER TRANSFORMER
T1 ⚠ 〔EK, XL, XA〕 〔PA, PE〕	SLT5Q148		POWER TRANSFORMER
COMPONENT COMBINATIONS			
Z501, Z502	ERF3GBKR22N	001 150 0338 2	WIRE WOUND RESISTOR
OSCILLATORS			
X701	SVFCSB400P-M	001 241 1077 4	CERAMIC FILTER
FUSES			
F1 ⚠ 〔E, EF, EI, EB〕 〔EH, EG〕	XBA2C31TR0	002 380 0415 6	FUSE 250V, T3.15A
F1 ⚠ 〔EK〕	XBA2C63TB0	002 380	FUSE 250V, T6.3A
F1 ⚠ 〔XL, XA〕 〔PA, PE〕	XBA2C63TR0	002 380 0420 9	FUSE 250V, T6.3A
F2 ⚠ 〔EK〕	XBA2C31TB0	002 380 1356 6	FUSE 250V, T3.15A
F2 ⚠ 〔XL, XA〕 〔PA, PE〕	XBA2C31TR0	002 380 0415 6	FUSE 250V, T3.15A
SWITCHES			
S1 ⚠	SSH1201	003 435 4960 0	PUSH SWITCH
S2 ⚠ 〔EK, XL, XA〕 〔PA, PE〕	ESE37263	003 430 2327 2	SWITCH
S101, S202	SSH4107	003 435 6104 4	SWITCH
S203, S204	SSH4107	003 435 6104 4	SWITCH
S205	SSH1223	003 435 6101 7	SWITCH
S206, S301	SSH2125	003 435 6103 5	SWITCH
S501, S502	SSH2124	003 435 6102 6	SWITCH
S701, S702	SSG13	003 435 2951 9	SWITCH
S703, S705	SSG13	003 435 2951 9	SWITCH
S706, S708	SSG13	003 435 2951 9	SWITCH
S709	SSG13	003 435 2951 9	SWITCH
RELAYS			
RL601	SSY126	003 450 2686 0	RELAY

Ref. No.	Part No.	Part Code	Description
CABINET AND CHASSIS			
1	SBN1217-1	016 700 1966 5	KNOB
2	SBN1218-1	016 700 1967 4	KNOB
3	SBC666-5	016 702 6679 9	BUTTON
4	SGWUV85A-KE	016 840 7492 3	FRONT PANEL (K)
5	SGXUV85A-KE1	016 846 3717 1	GRILLE
6	SUS833	016 726 0873 1	COIL SPRING
7	SBC707-5	016 702 6931 6	BUTTON
8	SUS839	016 726 0875 9	COIL SPRING
9	SGW320T03A	016 840 7494 1	FRONT PANEL (K)
10	SGL239	016 846 3591 7	ORNAMENT
11	SHR6074	016 652 0702 8	PLASTIC SPACER
12	SGXUV85A-KE	016 846 3716 2	GRILLE
13	SBC719-1	016 702 1277 3	BUTTON
14	SMC1256	016 601 0604 4	SHIELD COVER
15	SMC1251	016 601 0587 8	SHIELD COVER
16	SBC820	016 702 6431 1	BUTTON
17	LN14314PH	001 032 8375 4	DIODE, GAASP
18	LN021372P	001 032 9472 0	DIODE, GAASP
19	LN074373P	001 032 9480 0	DIODE, GAASP
20	LN088374P	001 032 9481 9	DIODE, GAASP
21	SJJ126B	003 400 5920 7	JACK
22	SBC723-1	016 702 1232 6	BUTTON
23 〔E, EF, EI〕 〔EB, EH, EG〕	SJT390	003 410 7350 5	FUSE HOLDER
24	SMC1252	016 601 0588 7	SHIELD COVER
25	SKC2010K99	016 800 3025 6	CABINET
26	SHG6352-2	016 653 1111 6	RUBBER SPACER
27	SMC1256	016 601 0604 4	SHIELD COVER
28	SMN2039	016 632 1862 1	BRACKET
29	SUS227	016 727 0111 1	SPRING
30	SHE181	016 918 0332 7	HOLDA
31	SHE185	016 918 0330 9	SPACER
32	SKU11550-1	016 802 2155 1	BOTTOM BOARD
33	SKL306	016 828 0318 6	INSULATER
34	SUW3036	016 650 5301 1	BRACKET
35	SUW3037	016 650 5302 0	BRACKET
36	SHR401-1	016 652 0085 0	PIN
37	SJF3062N	003 410 6082 0	TERMINAL BOARD
38 〔EF, EI, EB〕 〔EH〕	SGPUV85A-KEF	016 840 7482 5	REAR PANEL
38 〔EG〕	SGPUV85A-KEG	016 840 7491 4	REAR PANEL
38 〔XL〕	SGPUV85A-KXL	016 840 7483 4	REAR PANEL
38 〔 E 〕	SGP6940-1A	016 840 7486 1	REAR PANEL
38 〔EK〕	SGP6940-3A	016 840 7488 9	REAR PANEL
38 〔XA, PA, PE〕	SGP6940-4A	016 840 7487 0	REAR PANEL
39	SJF3062-11N	003 410 7790 5	TERMINAL BOARD
40	SJF4817	003 410 6874 6	TERMINAL BOARD
41 ⚠ 〔XA, PA, PE〕	SJS601-3	003 400 5894 2	SOCKET
42 〔XL, XA〕 〔PA, PE〕	SHR127	016 645 0037 9	SPACER, AC CORD
42 〔EK〕	SHR129	016 645 0038 8	BUSHING, AC CORD
43 ⚠ 〔EK〕	QFC1205M	003 490 0928 5	AC CORD
43 ⚠ 〔PA, PE〕	RJA52Y	003 490 3914 9	AC CORD
43 ⚠ 〔XL〕	SJAG23	003 490 1056 4	AC CORD
43 ⚠ 〔XA〕	SJA111	003 490 1073 3	POWER CORD
44	SHR301	016 645 0044 0	CLAMPER
45	SJT30340LX-V	003 410 6075 9	LUG TERMINAL
45	SJT30440LX-V	003 410 6076 8	LUG TERMINAL
46	SJT3321	003 410 5999 8	POST(3P)
47	SJT783	003 410 6001 7	CONTACT
48	SJS5031	003 403 4394 6	CONNECTOR
48	SJS5331	003 400 5924 3	CONNECTOR
49	SJT3011	003 410 3799 2	LUG TERMINAL
50	SJT785	003 410 6015 1	CONTACT
51	SJS5813	003 400 5931 4	SOCKET
52	SJS5341	003 403 4292 1	CONNECTOR
52	SJS5435	003 400 4240 8	SOCKET
53	SJT3311	003 410 1819 3	PLUG
53	SJT3409	003 410 1824 6	PLUG
54 〔E, EF, EI〕 〔EB, EH, EG〕	SJS9231A	003 410 5984 5	SOCKET COVER
55 〔E, EF, EI〕 〔EB, EH, EG〕	SJS9231-1B	003 400 7442 8	SOCKET
56 〔E, EF, EI〕 〔EB, EH, EG〕	SMX897	016 600 0483 0	SHIELD SPACER
SCREWS.WASHERS & NUTS			
N1	XTBS3+10JFZ1	005 501 3413 1	TAPPING SCREW
N2	SNE4021	005 507 0372 5	NUT
N3	XTB3+8G	005 501 2607 7	SCREW
N4	XTB3+16J	005 501 2648 8	TAPPING SCREW
N5	XTWS3+10Q	005 501 2293 5	SCREW
N6	SNE2095-5	005 500 4884 5	CABINET
N7	XTBS3+8JFZ1	005 501 2523 0	SCREW
N8	SNE4065	016 650 5300 2	BRACKET
N9	XTB4+16F	005 501 0162 3	TAPPING SCREW
N10	XTV3+20F	005 501 1742 5	TAPPING SCREW
N11	SNE2117-1	005 500 5010 3	ORNAMENT SCREW
N12	XTW3+8T	005 501 1358 9	SCREW
N13	XYN3+F14	005 503 0346 7	TAPPING SCREW
N14 〔EK, XL, XA〕 〔PA, PE〕	XYN3+C6FZ	005 503 0168 7	SCREW
N15	SNE75	003 410 1908 3	TERMINAL

Ref. No.	Part No.	Part Code	Description
PACKINGS			
P1 〔E, EI, EB〕 〔EH, EG, EK〕 〔XA, PA, PE〕	SPG5836	016 971 4947 5	CARTON BOX
P1 〔EF〕	SPG5837	016 971 4948 4	CARTON BOX
P1 〔XL〕	SPG5838	016 971 4949 3	CARTON BOX
P2 〔E, EF, EI〕 〔EB, EH, EG〕 〔EK, XA, PA〕 〔PE〕	SPS4844	016 977 3138 4	PAD
P2 〔XL〕	SPS4844-1	016 977 3223 8	PAD
P3 〔E, EF, EI〕 〔EB, EH, EG〕 〔EK, XA, PA〕 〔PE〕	SPS4845	016 977 3139 3	PAD
P3 〔XL〕	SPS4845-1	016 977 3222 9	PAD
P4	SPP730	016 978 0378 7	PROTECTION COVER
ACCESSORIES			
A1 ⚠ 〔E, EF, EI〕 〔EB, EH, EG〕	SFDAC05E03	003 490 4809 5	POWER CORD
A2 〔XA〕	SJP5213	003 492 0736 1	PLUG
A3 〔XA〕	SJP5215	003 492 0737 0	PLUG
A4 ⚠ 〔PA, PE〕	RJP120ZBS-H	003 402 1437 9	PLUG
A5 〔E, EF, EI〕 〔EB, EH, EK〕 〔XL〕	SQF12848	016 983 5049 0	INSTRUCTION BOOK
A5 〔XA〕	SQF12849	016 983 5048 1	INSTRUCTION BOOK
A5 〔EG〕	SQF12850	016 983 5047 2	INSTRUCTION BOOK
A5 〔PA, PE〕	SQF12851	016 983 5046 3	INSTRUCTION BOOK

EXPLODED VIEWS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Power transformer
Voltage selector [EK,XL,XA, PA,PE]
Speaker terminal PCB
Tape monitor terminal PCB
Fuse/Power switch PCB
Headphone/Speaker selector switch PCB
Tone control PCB
Main PCB
Input/Rec selector LED PCB
Input/Rec selector switch PCB
Volume PCB
Input/Rec LED drive PCB
Phono equalizer PCB
Input/Rec selector PCB
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N15

Printed in Japan
87019000 ⓚYY

ORDER NO. HAD8705130S4

Service Manual

Supplement

Stereo Integrated Amplifier

Amplifier

SU-V85A

Color

(K) . . . . Black Type

Color	Areas
(K)	[PA] . . . East PX.
(K)	[PE] . . . European Military.

Please use this manual together with the service manual for Model No. SU-V85A, Order No. HAD8612793C9.

CHANGES

SPECIFICATIONS

(OLD)

(DIN 45 500)

AMPLIFIER SECTION

20 Hz ～ 20 kHz continuous power output	
both channels driven	2 x 100W (8Ω)
1 kHz continuous power output	
both channels driven	2 x 150W (8Ω)
Total harmonic distortion	
rated power at 20 Hz ～ 20 kHz	0.002% (8Ω)
rated power at 1 kHz	0.0007% (8Ω)
Intermodulation distortion	
rated power at 250 Hz : 8 kHz = 4 : 1, 4Ω	0.005%
rated power at 60 Hz : 7 kHz = 4 : 1, SMPTE, 8Ω	0.005%
Power bandwidth	
both channels driven, –3 dB	5 Hz ～ 60 kHz (8Ω, 0.025%)
Load impedance	
MAIN or REMOTE	4Ω ～ 16Ω
MAIN and REMOTE	8Ω ～ 16Ω
Input sensitivity and impedance	
PHONO MM	2.5mV/47kΩ
PHONO MC	170μV/220Ω
TUNER, CD, AUX 1, AUX 2, TAPE 1/DA TAPE, TAPE 2, TAPE 3/EXT	150mV/18kΩ
PHONO maximum input voltage (1 kHz, RMS)	
MM	160mV
MC	12mV
S/N	
rated power	
PHONO MM	79 dB (88 dB, IHF, A)
PHONO MC	70 dB (72 dB, 250μV, IHF, A)
TUNER, CD, AUX 1, AUX 2, TAPE 1/DA TAPE, TAPE 2, TAPE 3/EXT	94 dB (IHF, A : 106 dB)

(NEW)

(IHF '78)

AMPLIFIER SECTION

Rated minimum sine wave RMS power output	
20 Hz ～ 20 kHz both channels driven	
0.003% total harmonic distortion	120 W per channel (8Ω)
1 kHz continuous power output	
both channels driven	
0.003% total harmonic distortion	130 W per channel (8Ω)
Total harmonic distortion	
rated power at 20 Hz ～ 20 kHz	0.003% (8Ω)
rated power at 1 kHz	0.003% (8Ω)
Intermodulation distortion	
rated power at 250 Hz : 8 kHz = 4 : 1, 8Ω	0.005%
rated power at 50 Hz : 7 kHz = 4 : 1, SMPTE, 8Ω	0.005%
Power bandwith	
both channels driven, –3 dB	5 Hz ～ 60 kHz (8Ω, 0.02%)
Load impedance	
MAIN or REMOTE	6Ω ～ 16Ω
MAIN and REMOTE	12Ω ～ 16Ω
Input sensitivity and impedance	
PHONO MM	0.25 mV (2.5 mV, IHF '66)/47 kΩ
PHONO MC	17μV (170μV, IHF '66)/220Ω
TUNER, CD, AUX 1, AUX 2, TAPE 1/DA TAPE, TAPE 2, TAPE 3/EXT	15 mV (150 mV, IHF '66)/18 kΩ
PHONO maximum input voltage	
MM	150 mV
MC	10 mV
S/N (IHF, A)	
PHONO MM	77 dB (88 dB, IHF '66)
PHONO MC	75 dB (72 dB, IHF '66)
TUNER, CD, AUX 1, AUX 2, TAPE 1/DA TAPE, TAPE 2, TAPE 3/EXT	82 dB (106 dB, IHF '66)

Technics

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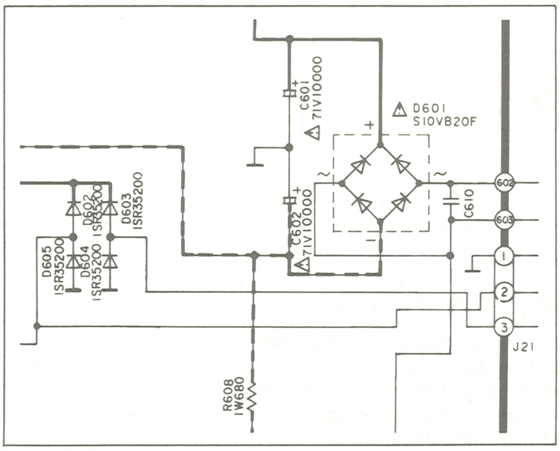
Tokyo 105, Japan

REPLACEMENT PARTS LIST

Ref. No.	Change of Part No.		Part Name & Description	Per Set (Pcs.)	Remarks
	OLD ➡	NEW			
TRANSFORMER					
T1 ⚠	SLT5Q148	**SLT5Q149**	Power Transformer	1	Change
CABINET AND CHASSIS					
28	SMN2039	- - - - - - - - - - - - - - - -	Bracket	0	Deletion
38	SGP6940–4A	**SGP6940–4B**	Rear Panel	1	Change
CAPACITOR					
C601 ⚠	ECET71R103Y	**ECET71R562U**	Electrolytic, 71V, 5600µF	1	Change
C602 ⚠	ECET71R103Y	**ECET71R562U**	Electrolytic, 71V, 5600µF	1	Change
C603 ⚠	- - - - - - - - - - - - - -	**ECET71R562U**	Electrolytic, 71V, 5600µF	1	Addition
C604 ⚠	- - - - - - - - - - - - - -	**ECET71R562U**	Electrolytic, 71V, 5600µF	1	Addition

SCHEMATIC DIAGRAM

(OLD)


C601
71V10000
⚠ D601
S10VB20F
C602
71V10000
D602
ISR35200
D603
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C610
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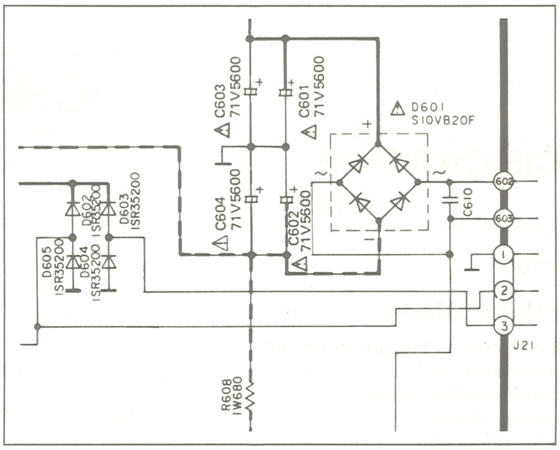
J21
R608
1W680

(NEW)


C603
71V5600
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S10VB20F
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Printed in Japan
K870500700AM

ORDER NO. HAD8707231S4

Service Manual

Supplement

Amplifier

SU-V85A

Stereo Integrated Amplifier

Color

(K) . . . . Black Type

Area

Color	Area
(K)	[PA] . . . Far East PX.
(K)	[PE] . . . European Military.

Please use this supplemet manual together with the service manual for Model No. SU-V85A, Order No. HAD8612793C9 and HAD8705130S4.

CHANGES

■ SPECIFICATIONS

INCORRECT

■ **AMPLIFIER SECTION**

Total harmonic distortion	
rated power at 20 Hz ∼ 20 kHz	0.003% (8Ω)
rated power at 1 kHz	0.003% (8Ω)

➡

CORRECT

■ **AMPLIFIER SECTION**

Total harmonic distortion	
rated power at 20 Hz ∼ 20 kHz	0.002% (8Ω)
rated power at 1 kHz	0.0007% (8Ω)

Technics

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